Natural Resource Rents and Economic Growth: Can Strong Civil Society Lift the Curse?

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Table of Contents

List of Figures and Tables

List of Abbreviations

2SLS	Two-Stage Least Squares
AI	Amnesty International
ADEW	Association for the Development and Enhancement of Women
ADF	Augmented Dickey-Fuller
CED	Center for Economic Development
CEWLA	Center For Egyptian Women's Legal Assistance
CNP	Johns Hopkins Comparative Nonprofit Sector Project
CSD	Civil Society Diamond
CSI	Civil Society Index
CSO	Civil Society Organization
CSOSI	USAID's Civil Society Organization Sustainability Index
EAP	East Asia and Pacific
ECA	Europe and Central Asia
EEI	Enabling Environment Index
EITI	Extractive Industries Transparency Initiative
FDI	Foreign Direct Investment
FE	Fixed Effects
FFF	Foundation For the Future
GCSI	Johns Hopkins University Global Civil Society Index
GDI	Gross Domestic Investment
GDP	Gross Domestic Product
GIIN	Global Impact Investing Network
HDI	Human Development Index
HRW	Human Rights Watch
ICNL	The International Center for Not-for-Profit Law
ICRG	International Country Risk Guide
IMF	International Monetary Fund
IV	Instrumental Variable
JHU	Johns Hopkins University, Baltimore
LDC	Least Developed Countries
LAC	Latin America and Caribbean
LPI	Swedish Life and Peace Institute
MENA	Middle East and North Africa

NA	North America
NBER	National Bureau of Economic Research
NGO	Non-Governmental Organization
NPO	Non-Profit Organization
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PETA	People for the Ethical Treatment of Animals
PVO	Private Voluntary Organization
RE	Random Effects
R&D	Research and Development
SAS	South Asia
SIPRI	Stockholm International Peace Research Institute
SSA	Sub-Saharan Africa
UIA	Union of International Associations
UN	United Nations
USAID	United States Agency for International Development
WBG	World Bank Group
WDI	World Bank's World Development Indicators
WEF	World Economic Forum
WGI	World Bank's World Governance Indicators

1. Introduction

More than twenty years ago in the wake of the end of Soviet Union the scientist Lester M. Salamon wrote with a large extent of optimism that "we are in the midst of a global 'associational revolution' that may prove to be as significant to the latter twentieth century as the rise of the nation-state was to the latter nineteenth" (Salamon, 1994). With associations he means organized voluntary activity and private, non-profit and non-governmental organizations, thus all in all the elements that are summarized with the term civil society in later discussions. Even so many years after his statement, it is not totally clear to what extent civil society activities affected the transition processes in the former Soviet states, but in general it is considered to have a positive effect on the well-being of society. Undeniably, we see a growing importance of and attention for activities outside state and economy. But this does not mean that civil society is totally separated from these other two spheres.

As of the late 1990s the civil society sector in 26 countries is described by Salamon et al. (2004, p. 15) as a "$1.3 trillion industry" and a "major economic force", because it had aggregated expenditure in this amount. Today, there is a strong support from highly renowned organizations such as the World Bank which provided through different funding mechanisms around 197 million dollars directly to civil society organizations in the period between 2008 and 2010 (World Bank, 2013). Furthermore, the Global Impact Investing Network and J.P.Morgan calculated for the year 2014 an amount of 10.6 billion dollars in impact investments, which focus on social and environmental issues (Saltuk et al., 2015). The interest for civil society comes from the variety of functions that it can fulfil, for example monitoring and promotion of accountability and transparency, advocacy, community building, intermediation between citizens and state, and service delivery.

Thus, it is not just involved in economic activities, but civil society is part of political life in the form of protests, demonstrations, and groups that care for the environment, woman empowerment, animal rights, political freedoms, civil liberties, and many more. As some authors see a strong civil society as a panacea, maybe it has the power to exorcize a curse, more precise the so called curse of natural resources. It became a stylized fact during the 1990s and describes the situation that some countries suffer from slow growth despite the abundance of natural resources. An observation is that some countries benefit from their natural resources and some do not, which has been traced back to several transmission channels of the curse, such as Dutch disease, deterioration of institutions, civil conflict, and many more. In this work, I will investigate the role of the development of civil society in this relationship between resource abundance and economic performance.

The idea is that a strong civil society might affect the effect of resource rents on growth in a similar way than the quality of institutions does, and thus might lift the curse. Many authors give evidence for a moderating effect of the quality of institutions. But when institutions or state authorities fail in the provision of important services and control mechanisms, civil society organizations can help and promote transparency and accountability, or provide services such as education. The latter is an important field of non-profit organizations. Overall, the moderating effect of civil society in the resource curse issue has not been studied yet, despite the many publications on civil society as well as on the curse of natural resources. Finally, the hypothesis in this work is: "The final effects of natural resource rents on economic growth depend on the degree of civil society development", and it will be investigated by using an OLS estimation with unbalanced panel data which include 47 countries for the period between 1997 and 2013.

In the second part of this work I will review the theoretical and empirical literature on economic growth, civil society, and the natural resource curse. This is the basis for my further analysis, in which I look for important drivers of economic growth that have to be included in my econometric specifications, to avoid endogeneity problems. Furthermore, I will look for evidence of the importance of civil society and ways to measure it, as well as for its functions and positive effects on the societal, political, and economic life. In the part about the resource curse, I will present its transmission channels and discuss the two paths of literature that have found no consensus about the existence of a curse. In the third part, I will present my methodology and describe the used data and specifications. Finally, the fourth part of this work will present the results and discuss some robustness issues and further implications, and will be followed by the fifth part which contains the conclusion.

2. Review of Theoretical and Empirical Literature

2.1. Review of Theoretical Literature

In this part of the literature review the current state of literature about economic growth, civil society and the resource curse will be summarized. First, the approaches and theories to understand economic growth will be discussed. The definition of economic growth follows the common way, namely the positive change in (per capita) GDP, measured in percentage change compared to the previous quarter or year. The Gross Domestic Product or GDP measures both a nation's total output of goods and services and its total income. Second, we will see how civil society is defined and how the meaning of the term changed over time. In this brief historical overview we will see three paths of civil society thinking[1] from which the associational or neo-Tocquevillian perspective is considered to be the most important. We will argue in favour of this approach because CSOs are easier to measure than a public discourse or the public sphere. Furthermore, we will see how we can measure this complex phenomenon for cross-country analysis. Third, the transmission channels of the resource curse will be discussed, and I will introduce the role of civil society to this discussion.

2.1.1 Approaches to Understand Economic Growth

The classical theory of economic growth can be derived from Adam Smith's work which was published in the middle of the eighteenth century and started economics as a separate academic discipline (Baumol et al., 2007, pp. 35-41). In his famous book 'The Wealth of Nations' he identifies the necessity of division of labor and specialization within and across countries to be more productive. He argues that countries should produce only goods that fit best with their existing skills and knowledge. This leads inevitably to trade among nations and thus to increased economic activity, which needs free trade, openness, and adequate infrastructure. Additionally, the transportation costs and tariffs should be low enough, in order to prevent it from cancel out the positive advantages of production. Another influential approach to understand the economic growth followed in the beginning of the twentieth century during the Great Depression, namely John Maynard Keynes' view how to handle the recession. Keynes criticized the classical method of waiting for high and rising rates of

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1   In his theoretical approach Edwards (2014) separates three branches of thinking about civil society, namely the associational life, the good society, and the public sphere. But in practise these three aspects of civil society are not totally separated from each other.

unemployment that will drive wages down to a level where it would be profitable for companies to begin hiring workers again. He argues that it would take too much time or would not work at all, because on the one hand workers would resist against actions of lowering wages, and on the other hand is there no guarantee that employers will employ more workers when the wages are low (Baumol et al., 2007, pp. 35-41).

Furthermore, Keynes sees economic developments, thus boom and recession, as demand-side phenomena, so he diagnosed a lack of demand for goods and services as the cause for the recession. His answer is to raise demand by cutting taxes or increasing spending, or a combination of both. The opposite intervention in the economy would be suggested if private sector demand growth was too strong, and for example causing prices and wages to rise. This would aim on preventing inflation. But this approach does not explain economic growth in the long run, because it doesn't take into account the limits of a specific economy's potential output, defined by "the amount of goods and services the economy could produce if all its resources, people, and machines were fully utilized" (Baumol et al., 2007, p. 37). However, Keynesian economics is being criticized for its misunderstanding of the term saving as "hoarding of cash" (Ahiakpor, 2003, p. 154). Saving is an important component in explaining economic growth in the classical theory. The greater the rate of saving, the greater also will be the amount of capital goods to support the division of labor in production, and thus the greater the potential future income. Whereas the Keynesian approach says that saving reduces demand for consumption, and thus production, employment, and investment.

But even if Keynes' views are still present today and give important pieces to the puzzle of understanding economic growth, the modern main-stream economists follow the neo-classical approaches that are based on Smith's classical view. Part of these is the Solow growth model, sometimes called Solow-Swan model, named after Robert Solow and Trevor Swan, who both published their works in 1956 (Baumol et al., 2007, pp. 35-41). The Solow growth model shows the roles played by growth in the capital stock (K), growth in the labor force (L), and advances in technology (E), and how they affect the total output of goods and services (Y) in an economy. He assumes constant returns to scale and diminishing marginal productivity of capital in his model. Therefore, the output is explained by a function of capital and labor, and the latter is influenced by the efficiency of labor, which reflects the knowledge about production (Mankiw, 2003, p. 208):

$Y = F(K, L \times E)$ (1)

The first aspect in the function is the accumulation of capital which can lead to economic growth, because "the capital stock is a key determinant of the economy's output" (Mankiw, 2003, p. 184). Moreover, there are two forces that influence the capital stock, namely investment and depreciation. The former describes the expenditure on physical capital, for instance machinery, equipment or buildings, and it causes the capital stock to increase. On the opposite, there is the depreciation which refers to the decay of old capital and it causes the capital stock to decrease. But investments and an increasing capital stock do not guarantee constant growth. Solow shows that in the long-run at some point the investment and depreciation reach an equilibrium, which is called steady-state level of capital, so accumulation of capital alone is not responsible for growth in the long-run. This point is, when investment equals depreciation ($\Delta k = 0$). This result comes from the argumentation of Solow, who shows how k evolves over time (Mankiw, 2003, pp. 181-189):

$$\Delta k = s*f(k) - \delta k \qquad\qquad (2)$$

Where Δk describes the growth of capital per worker (K/L), and $s*f(k)$ is the investment per worker (I/L). This comes from the argument that:

$$i = s*y \qquad\qquad (3)$$

Thus, investment per worker (i) equals saving rate per worker (s) multiplied by output per worker (y), while y represents the production function (1) in per-worker terms, excluding the variable for technology:

$$Y/L = F(K/L, 1) \qquad or \qquad y = f(k) \qquad\qquad (4)$$

Coming back to equation (2), the last term $-\delta k$ describes the depreciation, so we see if investment equals depreciation, then there is no growth from capital accumulation. Additionally, we can see the importance of the saving rate, which determines the allocation of output between consumption and investment. As seen before, the Solow model demonstrates that the saving rate is a key determinant of the steady-state capital stock. A high saving rate comes with a large capital stock and a high level of output. Contrarily, a low saving rate comes with a small capital stock and a low level of output. Overall, this shows that a reduced saving rate will lead to a lower capital stock and lower national income in the long-run, and on the opposite, an increase of the saving rate will cause temporary growth.

The second aspect in the model (1) is the change in the size of population, which also influences the size of the labor force, and thus the economic performance. As we have seen in (2), investment raises the capital stock, and depreciation reduces it. But now there is a third force that changes the amount of capital per worker (k or K/L). The growth in the number of workers, which is growing over time, causes the capital per worker to fall (Mankiw, 2003, pp. 199-202):

$$\Delta k = s*f(k) - (\delta + n) * k \qquad (5)$$

This equation includes the new variable n which labels the growth rate of population. In this case we suppose that the population and the labor force grow at this constant rate. Overall, the modified equation shows how investment, depreciation, and population growth influence the per-worker capital stock. Investment (here: s*f(k)) increases k, whereas depreciation (δ) and population growth (n) decrease k. The decrease of k happens, because depreciation is wearing out the capital stock and population growth is spreading the capital stock more thinly among a larger population of workers. Additionally, the term (δ + n)k is the break-even investment, describing the amount of investment necessary to keep the capital stock per worker constant, so for the economy to be in a steady-state, investment must offset the effects of depreciation and population growth. In this steady-state, where Δk = 0, the investment has two purposes: One part replaces the depreciated capital, and the other part provides the new workers with the steady-state amount of capital.

At this point the output per worker still stops growing, when the economy reaches its steady-state, so we need to add the third aspect which is technological progress or in the model (1) a variable called efficiency of labor (E). The idea is that with technological advances also efficiency of labour will rise, for instance assembly-line production in the beginning of the twentieth century and computerization ant the end of the same century. Some drivers of the efficiency of labor include improvements in health, education and skills of the labor force (Mankiw, 203, p. 208). To implement this idea into equation (5) we have to change two things. Firstly, we assume that the efficiency of labor grows at a constant rate g, which means that each unit of labor becomes more efficient each year by this rate. This rate g is called rate of labor-augmenting technological progress.

$$\Delta k = s*f(k) - (\delta + n + g) * k \qquad (6)$$

Both the labor force (L) and efficiency of each unit of labor (E) are growing, so L*E is growing

at rate (n+g). The second difference in this equation is the definition k that is now capital per effective worker, as well as the definition of y which is now output per effective worker:

$$k = K / (L*E) \qquad and \qquad y = Y / (L*E) \qquad\qquad (7)$$

In the equations before these values were kept constant to simplify the process and show the impact of the individual aspects. As before, the change in the capital stock (Δk) is the balance of investment s*f(k) and break-even investment, which is now (δ + n + g)*k, so it now includes depreciating capital (δ*k), capital for new workers (n*k), and capital for the new effective workers (g*k). The latter is created by technological progress. As before, the economy will reach a point, when capital per effective worker (k) and output per effective worker (y) are constant. This is, like before, the steady-state which represents the long-run equilibrium of the economy. But with the addition of technological progress, the model finally shows that technological progress can lead to sustained growth in output per worker. Mankiw (2003, p. 210) summarizes that "a high rate of saving leads to a high rate of growth only until the steady state is reached. Once the economy is in steady state, the rate of growth of output per worker depends only on the rate of technological progress".

But Solow did not speak the last word on this topic in the twentieth century. A critique on his model is that technological change is considered to be exogenous. This means the model does not explain the origin of technological progress. Furthermore, empirical results from applications of the Solow growth model are not yet mentioned; they will be presented in 2.2.1 of this work. To shed more light on these issues, one has to take into consideration so called endogenous growth theory which declines the Solow model's assumption of exogenous technological change. One example is Romer (1986) who bases his theory mainly on three points. Firstly, he criticizes the assumption of diminishing returns to per capita capital. He argues that the rate of investment and rate of return on capital may increase with increases in the capital stock. Additionally, Romer sees the differences in growth between countries not as depended on exogenously specified technical change or differences between countries. In his equilibrium model of endogenous technological change the driver of growth is knowledge and forward-looking profit-maximizing agents. Secondly, knowledge is assumed to be the product of a research with the characteristic of diminishing returns. This assumption is required to ensure that consumption and utility do not grow too fast, but it doesn't hurt the assumption of increasing marginal productivity of the intangible capital good knowledge. Thirdly, Romer highlights the assumption that the creation of new knowledge has a positive external effect on other people or companies who might get an advantage for production,

because knowledge cannot be totally kept secret or patented forever.

Another path in literature focuses on the importance of institutions, that includes aspects like for instance the rule of law and informal norms. The most famous supporter of this path is Douglass North (1991), who makes a historical review to show that specialization and growth of trade beyond the borders of cities or small regions created the need for more developed institutions, because more limited forms to organize business relations, for instance informal rules and religious percepts, couldn't resolve conflict, for example in contract negotiation and enforcement. Furthermore, he argues that effective institutions reduce transaction and production costs per exchange, because it takes resources to define and enforce exchange agreements, and thus lowered the costs of engaging in exchange over long distances, and increased the mobility of capital. Overall, political and economic institutions created a framework that encourages the profitability and feasibility of engaging in economic activity. Some other important incentives for economic activity that are linked to administrative improvements, mainly inside political institutions, include lowering of information costs and the development of an effective legal structure and court system, that can guarantee property rights and contract fulfilment. The latter will reduce costs and the waste of resources, as mentioned before.

Additionally, this will transform uncertainty into risk, and hence the risk can be spread among the agents of specific economic activities. This gives also the opportunity for an evolution of financial institutions and the creation of more efficient capital markets. Another aspect is taxation that can serve as a financial basis for effective and trustworthy institutions. But history shows, as North (1991, p. 109-110) demonstrates, that a "basic institutional framework creates opportunities for the consequent organizations to evolve, but the direction of their development has not been to promote productivity-raising activities. Rather, private profitability has been enhanced by creating monopolies, by restricting entry and factor mobility, and by political organizations that established property rights that redistributed rather than increased income". In the end we have no absolute consensus about the drivers of economic growth. As seen, the main-stream of theories follow in some way the classical ideas of Smith, who highlighted the importance of division of labor, specialization, free trade, openness, and adequate infrastructure, or the neo-classical approach of Solow. We saw that the latter explained economic growth by an increase in the capital-to-labour ratio, for instance through investment and rate of saving, until economy reaches a steady-state. In this equilibrium the economy needs technological improvements which is assumed to be exogenous. Population growth and changes in the size of the labor force will as well affect growth in the short run, until the steady-state is reached. Despite critique of the exogenous

character of technical progress, authors like Romer (1986) and Lucas (1988) follow the idea of the importance of new knowledge, innovation and human capital. On the other hand, there are authors that focus on on issues such as institutions, political systems, socio-cultural factors, demography, public infrastructure or geography (Arvanitidis et al., 2009; Barro, 1990; North, 1991). Arvanitidis et al. (2009) identify 24 important factors that affect economic performance, by interviewing experts (compare Table 1 in the Appendix A). Furthermore, Durlauf et al. (2005) even found 145 different regressors, of which the vast majority has been found to be statistically significant using conventional standards. Some of these factors will be discussed in 2.2.1 in more detail by looking at the empirical backing.

2.1.2 Civil Society: Definition and Measurement

The term 'civil society' has its roots in ancient Greek philosophy, around 500 BC, and found its way through the Enlightenment, from the late 17th to the late 18th century, and through liberal political thought to the modern usage. Even though the term can be found in English translations of Aristotle's writings, the meaning was rather 'political community', thus it describes political associations or institutions of the *polis* (which is more or less a small state) (DeWiel, 1997). Not until the Enlightenment happened did these classical political philosophers and their successors distinct between state and society. DeWiel (1997) argues that especially the Scottish thinker Ferguson in his 1767 work *An Essay on the History of Civil Society* introduced the term civil society, but with the modern meaning of society or national culture. He tied on the ideas of the German thinker Herder and the English thinker Burke. In the fertile time after the Enlightenment, the idea was further specified, for example in a small branch of the Hegelian triadic theory, he sees the dialectic progress between family, civil society and state.

In contrast to Hegel, there is also a Marxian approach to civil society, which was later continued by Gramsci. But the English translation from the German *bürgerliche Gesellschaft* to civil society is misleading, because in the Marxian two class theory this term describes the ruling class, similar to the French bourgeoisie, which is in contradiction to the working class. A more important thinker for the concept of civil society in the 19th century is De Tocqueville, who highlighted the importance of the people's willingness to associate for their matters, and the pluralism of associations for a democracy. These associations are part of the civil society which is interrelated with the political society, or in other words the state (DeWiel, 1997). In the twentieth century Gramsci was the first theorist who revived the term in fascist Italy and sees civil society as a sphere of independent political activity that has the power to fight

tyranny (Carothers, 1999). During the 1960s and 1970s, this Marxist tradition was combined with the liberal tradition by the German philosopher Habermas, who uses the term 'public sphere' that goes back to the philosophers Dewey and Arendt (Edwards, 2014, pp. 1-18). As Habermas' main theory is about communicative action, he sees the necessity of democratic negotiations for a healthy civil society. This negotiation processes are steered by members of society through the communication structures of the (discursive) public sphere.

After the end of Cold War, the topic civil society was again back on the agenda of political thinkers. The enthusiasm can best be shown by Salamon's (1994) description:

> "Indeed, we are in the midst of a global "associational revolution" that may prove to be as significant to the latter twentieth century as the rise of the nation-state was to the latter nineteenth. The upshot is a global third sector: a massive array of self-governing private organizations, not dedicated to distributing profits to shareholders or directors, pursuing public purposes outside the formal apparatus of the state. The proliferation of these groups may be permanently altering the relationship between states and citizens,with an impact extending far beyond the material services they provide."

This new third sector that he describes is a sphere between state and market, which are traditionally considered the only two sectors outside family. In literature, there are many names for this sphere or parts of it, for example non-profit sector, non-commercial sector, voluntary sector, civil society sector, social economy sector, public-benefit sector, non-governmental sector, charitable sector, independent sector, public sphere, or similar with the last word replaced by the word organization, for instance non-governmental organizations (NGOs), non-profit organizations (NPOs), civil society organizations (CSOs) and so on (Edwards, 2014; Salamon, 1994; Salamon et al., 2004, pp. 3-4). Sometimes the terms are used interchangeably, even if they do not have exactly the same meaning.

Salamon (1994) argues that the rise of the non-profit sector around the world comes from different directions. First, from the bottom through grass-roots movements, who fought for basic political freedoms, like freedom of expression or the right to organize. Second, from the outside in the form of development aid and similar engagement from individual citizens, as well as private and public institutions, for instance from the church, private voluntary organizations and official aid agencies. Third, from the top through government policies, such as attempts that aimed at strengthen private organizations to reduce government spending on social issues. Here we see the overlapping of the three sectors, which is also taken into account in Figure 1.

Figure 1: A Three-Sector Model
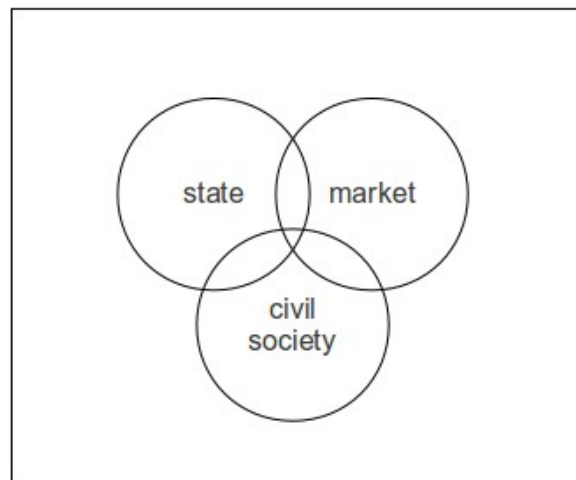
(Source: author's illustration)

This becomes more clear with examples of agents, institutions and organizations of civil society, namely "hospitals, universities, social clubs, professional organizations, day care centers, grassroots development organizations, health clinics, environmental groups, family counseling agencies, self-help groups, religious congregations, sport clubs, job training centers, human rights organizations, community associations, soup kitchens, homeless shelters, and many more" (Salamon et al., 2004, p. 3). Thus, we can derive the purpose of civil society for society. It engages in fields that are unattended, outsourced or even harmed on the one hand by politics, state institutions and organizations, or on the other hand by market-oriented companies and organizations. The special characteristics of civil society are their private structure and public purpose, their smaller scale and flexibility, and their special connection to the citizens. But civil society is not totally independent from the other sectors, because sometimes it is financed or supported by them. The reason for the increase in the occurrence of civil society organizations is explained by Salamon (1994), who sees the origins in the crisis of the modern welfare state, oil shocks and recession, and environmental degradation, besides the breakdown of the Soviet Union. Nevertheless, the engagement for poor and needy people is not a new phenomenon, but it is present in many religions and traditions around the world for centuries. Despite many positive aspects of civil society engagement, there are also some critical points. Depending on the definition, civil society contains not just groups that bring benefit for society, hence Carothers (1999) names the Russian mafia or militia groups as parts of it, so there is also a struggle inside civil society.

A similar problems comes from civil society organizations that are too close connected to the state or market, so they might be involved into corruption (Foley and Edwards, 1996). Furthermore, the flexibility and effectiveness can be harmed if they become too professional, because of administrative procedures (Salamon et al., 2004, pp. 3-4). In contrast to Salamon (1994), who shows an increase in forming of non-profit organizations around the world, and thus a rise in voluntary engagement for public benefit, Putnam (1995) fears the decay of social norms, networks, and trust, which are labelled with the term social capital. His evidence is the decline of political participation, organized religion, and associational memberships. As one of the reasons he suggests the privatization and individualization of leisure time, for example through consumption of television program. In general, he follows the argument of De Tocqueville, who sees associations as an essential part of American democracy, thus he argues that a decline of participation in civil associations will harm democracy, because those who will stay political active can now change the laws to their personal benefit. He warns of the pursuit of wealth and individualism as the sources of this decline (Bevc, 2007, pp. 192-195).

Overall, Putnam does not deny the increase of the engagement in NPOs, but he highlights the decline of the traditional forms of civilian public engagement. An explanation for this shift could be derived from Inglehart's (1977) theory, that identifies a change of values in Western democracies during the 1960s and 1970s from materialism to post-materialism, which is reflected in the new social movements with focus on political freedoms and ecological issues. In a later work, Putnam shows a different pattern, namely an increase in engagement in some regards after the 9/11 attacks, but it is divided among the cleavages of class and race (Sander and Putnam, 2010). The change in the structure of civil engagement that was presented in this section shows the complexity of the topic of civil society. A first conceptualization and operationalization, that captured the multiple dimensions of civil society and compared them across countries, took place in the 1990s Johns Hopkins Comparative Nonprofit Sector Project (CNP). It included around 150 researchers from twelve countries in Europe, Latin America, and Asia (Salamon et al., 2004; Lyons, 2009). But the two leading figures in this project, namely Lester Salamon and his assistant Helmut Anheier, developed on the basis of the CNP two slightly different approaches to measure civil society, after Anheier left the project in 1998. Thus, we have the very complex CSI from Civicus based on Anheier's work, and the GCSI from Salamon based on the CNP. In addition, there is a civil society index from the US development agency, called CSOSI. The latest approach to capture civil society comes again from Civicus which created an index with secondary data, including the CSOSI, on the basis of previous experience.

2.1.2.1 Civicus Civil Society Index (CSI)

After its founding in 1991, Civicus started publishing works with overviews of civil society in different regions in the world. Civicus, which has the subtitle "World Alliance for Citizen Participation", is an organization which unites individuals and organisations that are involved in civil society engagement (Civicus, 2015). As the role of civil society became more attention during the 1990s, Civicus leaders decided to create an index on the basis of Anheier's (2004) civil society diamond (CSD) that could be published every year. But this idea was too ambitious, so they started a piloting phase in 2001, including 12 countries, followed by two full phases between 2003 and 2006, with 49 countries, and between 2008 and 2011, with 31 countries (see results in the Tables 2-4 in Appendix A)[2]. Overall, there is at least one value for 73 countries, but some of them are just parts of countries or small regions. Although the methodology in the different phases changed in some aspects, the basis was the concept of the CSD from Anheier, who uses the following working definition for his concept:

> "Civil society is the sphere of institutions, organizations and individuals located between the family, the state and the market in which people associate voluntarily to advance common interest." (Anheier, 2004, p. 22)

Furthermore, he says that civil society is not synonymous with society and it is not identical with the non-profit sector, but it does include the so-called uncivil society (Table 5 in Appendix A provides a selection of units that are included and excluded in his definition). In his methodology he uses four dimensions that determine the structure of the CSD and thus reflect the 'shape' of the civil society (see the phase of 2001 in Figure 2). In theory, the dimensions consist of a number of indicators, for example number of people who engage in NGOs, but in the pilot stage the results came mainly from the discussions of Civicus members (Lyons, 2009).

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2   Different publications report varying numbers of participating countries. The here presented counts include all reports that are *de facto* available on the website of Civicus or its partners.

Figure 2: CSD for Uruguay: Comparison of the Three Phases
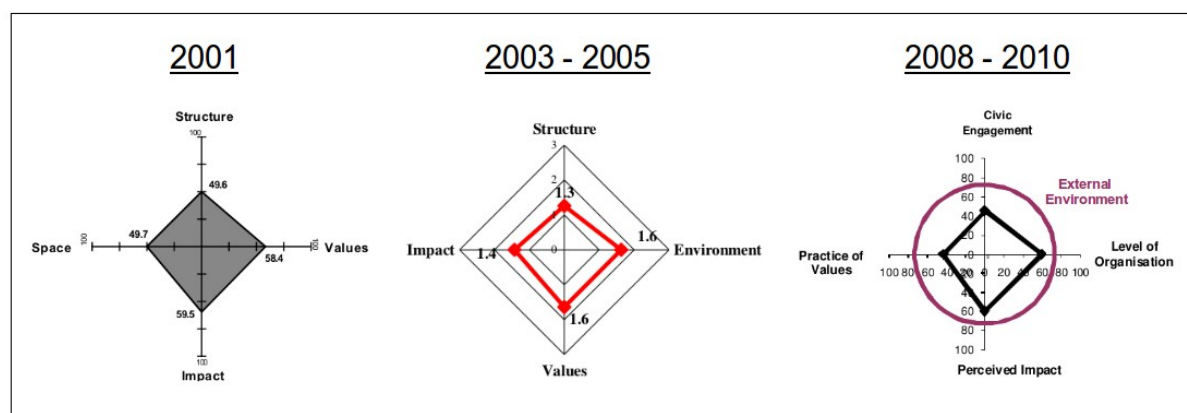
(Sources: Barreiro et al., 2001; Barreiro and Cruz, 2006; Cruz, 2012; author's illustration)

As we see in the example of Uruguay, the methodology changed over time. In the first real application of the methodology in the phase from 2003 to 2006, there are 74 indicators that are grouped into 25 subdivisions. The latter are grouped into the four original dimensions, namely Structure, Environment (in the pilot phase: Space), Values, and Impact. First, the Structure dimension includes strength and depth of citizen participation, diversity within civil society, level of organisation, interrelations and resources. Second, the Environment dimension describes the socio-political and cultural framework and includes political context, basic freedoms, socio-economic and socio-cultural context, legal environment, state-civil society relations, and relations between the private sector and civil society. Third, the Values dimension sheds light on the extent of commitment and practice of certain values within CSOs and the efforts to promote these values. Among the subdivisions are democracy, transparency, tolerance, non-violence, gender equity, poverty eradication, and environmental sustainability. Fourth, the Impact dimension tries to measure how active and successful civil society is in influencing public policy , and in holding the state and private corporations accountable. Furthermore, it includes subdivisions such as responding to social interests, empowering citizens, and meeting societal needs (Lyons, 2009; Malena and Heinrich, 2007; a more detailed list of the indicators in Table 6 in Appendix A).

The final values for the CSD result from the effort of the local researchers, who first collect as much information about the 74 indicators as possible, and then drafted into a report which is then reviewed by a national advisory group of civil society leaders . After the indicators are scored on a scale from 0 to 3 by the advisory group, the results are aggregated into subdivisions and then into the four dimensions(Lyons, 2009; Malena and Heinrich, 2007). In

the second phase from 2008 to 2011, the methodology changed from four to five dimensions, consisting of 67 quantitative indicators that are aggregated into 28 sub-dimensions. Another change is the scale, which is like in the pilot phase from 0 to 100. Furthermore, the Environment dimension is now excluded from the actual diamond. The major difference in the composition of the dimensions is that the former Structure dimension has been split into Civic Engagement and Level of Organisation. The former includes subdivisions that describe extent, depth, and diversity of social and political engagement, and the latter concentrates on internal governance, infrastructure, communication, resources and international linkages (Cruz, 2012).

2.1.2.2 Johns Hopkins University Global Civil Society Index (GCSI)

The GCSI was developed by Lester Salamon and Wojciech Sokolowski in 2002 after the pilot phase of the CSI. They built on data from the CNP and focused on the civil society organizations and sectors (Lyons, 2009). Thus, they define civil society as:

> "*The set of (1) formal or informal organizations or structured relationships among people, that are (2) private (i.e. not part of the apparatus of the state), (3) not profit-distributing, (4) self-governing, and (5) voluntarily constituted and supported.*" (Salamon et al., 2004, p. 66)

In comparison to Anheier (2004), they use three dimensions, namely Capacity, Sustainability and Impact. They criticise the "absence of solid empirical measures" and the "essentially subjective measures" in the pilot phase of the CSI that show only "relatively narrow facets of the overall phenomenon" (Salamon et al., p. 62). With this background the GCSI was created, but it has its own weaknesses. These will become clear, when we look at the composition of the index. Within each of the three dimensions there are four indicators, thus overall twelve indicators (Salamon et al., 2004, pp. 67-75; more details in Table 7 in Appendix A). The first set of indicators under the label Capacity includes the extent of paid employment, the extent of volunteer employment, the amount of charitable contributions, and the degree of diversification of the civil society sector. The latter is measured by the distribution of non-profit workforce in different fields of activity. In the Sustainability dimension we find the indicators: self-generated income, popular and government support, and legal environment. The last of the three dimension is called Impact and includes contributions to economic performance, human services, and advocacy and expression, as well as the popular commitment.

From these indicators they built an index by aggregating and normalizing. Thus, for each of the 34 countries, each indicator was expressed as a percentage of the highest score achieved by one country. The twelve scores achieved by this process ranged between 0 and 100 percent, hence each dimension was averaged, and at the end all dimensions were averaged to receive a single score (Lyons, 2009; the results are shown in Table 8 in Appendix A). Nevertheless, there are some critical points with this index. First, Salamon et al. (2004) use a narrow definition of civil society that has focus on non-profit organisations, so it is problematic to make statements about civil society at large, how it was presented in previous parts of this work. Second, the data were collected at different time periods between 1995 and 2000, thus the assumptions is that civil society as defined here does not change over this small period of time. Another data issue is mentioned by Lyons (2009) who criticises the underestimation of the Australian civil society because of weak data and questionable indicators in the GCSI approach.

2.1.2.3 USAID Civil Society Organization Sustainability Index (CSOSI)

The United States Agency for International Development (USAID) publishes since 1997 the Civil Society Organization Sustainability Index (CSOSI) that assesses the sustainability of the CSO sector. In the beginning it covered 18 countries from Europe and the Eurasian region, but the latest data from 2013 are available for almost 60 countries from different regions around the world. The CSOSI measures the strength and overall viability of civil society sectors of the countries. USAID defines CSOs as a part of civil society, which includes "human rights and pro-democracy groups, labor unions, professional associations, religious institutions, think tanks, business associations, and informal groups such as student movements" (USAID, 2015)[3]. Furthermore, we can see from that indicators that the term CSO is similar used to the term NGO, because it describes organisations and associations which are independent from the state. But it is possible that these CSOs are paid by local authorities or the federal state to provide services or fulfil tasks. Here, is also a difference visible to NPOs that put more emphasis on not making profits.

Similar to the CSI and the GCSI, the CSOSI consists of seven dimensions, namely legal environment, organizational capacity, financial viability, advocacy, service provision, infrastructure, and public image. Within each of these dimensions are approximately five

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3   Available at:
     http://www.usaid.gov/what-we-do/democracy-human-rights-and-governance/supporting-vibrant-civil-society-independent-media (Access: 06.05.2015)

indicators that are rated by CSO experts from the specific countries (more details about the indicators in Table 9 in Appendix A). Overall, the 36 indicators shed light on similar aspects like the other civil society indexes. The results for individual countries come from the cooperation of the USAID Editorial Committee and CSO experts from the countries. These experts are at least eight representatives of CSOs which discuss all indicators in country panels using the instructions from USAID. Thus, they rate each of the indicators within each dimension on the scale from 1 to 7, with a score of 1 indicating a very advanced civil society sector with a high level of sustainability, and a score of 7 indicating a fragile, unsustainable sector with a low level of development. Thereafter, the project editor sends the score recommendations to the Editorial Committee. The latter has the final word in disagreements, and can adjust the scores.

With this in mind there is a first critique, because it's a qualitative way of generating data, which makes it hard to determine changes from one year to another, because some efforts to improve civil society take years. Furthermore, the role of the Editorial Committee, that can change the scores in the case of unrealistic shape for the international comparison, seems not to be very transparent. The problem is that they use the same background informations that are described in the reports, but in an extreme case they could come to different results, and thus reliability can not be guaranteed. If we look at the data, we also see only slightly changes from one year to another. This could become a problem in the further analysis. Another problem is the coverage of countries in the dataset, because it includes almost only developing and transitional countries from Asia, Europe and SSA (see Table 10 in Appendix A).

2.1.2.4 Civicus Enabling Environment Index (EEI)

The latest index-related project from Civicus is called Enabling Environment Index (EEI). It measures the conditions within which civil society works in 109 countries, but only for the year 2013. The Civicus definition of civil society includes non-organised forms of civil society as well as civil society organisations. Overall, it is similar to the content of the Structure and Environment dimensions of the CSI. The three dimensions here are socio-economic and socio-cultural environments as well as governance. Within each of the dimensions are 17 sub-dimensions that consist of several indicators that are in total 53 (Civicus, 2013). The indicators that are part of the EEI have different units and scales, thus they are re-weighted on a scale from 0 to 1, with 0 being least enabling and 1 being most enabling. In the final

step the governance dimension is valued 50% of the final EEI, while the socio-economic and the socio-cultural dimensions are each 25%. Most of the secondary data come from 2010 and 2011, but in the socio-cultural dimension there are data from 2005 to 2011 because social-cultural trends tend to evolve slowly over time. The data sources include UN Human Development Index, World Values Survey, Social Watch, USAID CSO Sustainability Index, Transparency International Corruption Perception Index, Worldbank's WGI, Freedom House Freedom in the World, and many more (EEI, 2015).

2.1.3 The Resource Curse and Its Transmission Channels

In the early 1990s, when scientists tried to find out why some developing countries are economically performing better than others[4], the idea of a resource curse came into existence. A first empirical investigation from Sachs and Warner (1995b) showed that countries with a high ratio of natural resource exports to GDP tend to have low growth rates. Thus, the negative relationship between natural resource abundance and economic performance became common knowledge or a stylized fact (Torres et al., 2013). But until today, there is no final consensus about the existence of a resource curse. However, despite the equivocal role of natural resources, several theories have been proposed to explain it. Ross (2012) argues that the resource curse is mainly an oil curse, because the overwhelmingly traded mineral is petroleum, which is a relatively new phenomenon that appeared during the 1970s in the wake of oil industry nationalization efforts in many countries. He sees not the nationalization itself as the root of the curse, but the unusual properties of petroleum revenues, namely scale, source, stability, and secrecy. These are closely related to the rise of state-owned oil companies.

In his theory, the large scale of oil revenues from these companies provides governments with financial opportunities to silence dissent and to relinquish or reduce taxes. With the main source of income from petroleum, these governments can weaken public pressure and demands for democratic participation. But this does not guarantee political stability, because oil prices are highly volatile, and regional conflicts can reduce the output of production. The stability can partly be uphold through secrecy of the true sizes of oil reserves and revenues. Furthermore, Ross (2012) examines, besides economic growth, how the revenues affect democracy, the role of woman in society, and civil war. His approach tries to unite several characteristics of resource-rich states, but with some empirical and historical weaknesses

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4   Among these studies, that will be discussed in 2.2.1, are: Barro and Sala-i-Martin (1991), Blomström et al. (1992), Dollar (1992), Hall and Jones (1999), Kelley and Schmidt (1995), Mankiw et al. (1992), and many more.

(Morrison, 2013). Nevertheless, the mechanisms he explains can also be found in works of other authors, and some of his findings will be discussed in the empirical part. The most easy way to illustrate a modern understanding of the resource curse, or more precise the oil curse, is to imagine the curse to be a factor X that exists between national resources and the national income (Farzanegan, 2013). This factor X is a transmission channel of oil revenues into the national economies. From literature, we can derive at least seven of these transmission channels (See Figure 4). In addition, this work will look at the role of civil society. The first explanation for the negative effects of natural resources on the economic performance is already mentioned in early works such as Sachs and Warner (1995b), namely the Dutch disease.

Figure 4: Transmission Channels of the Oil Curse
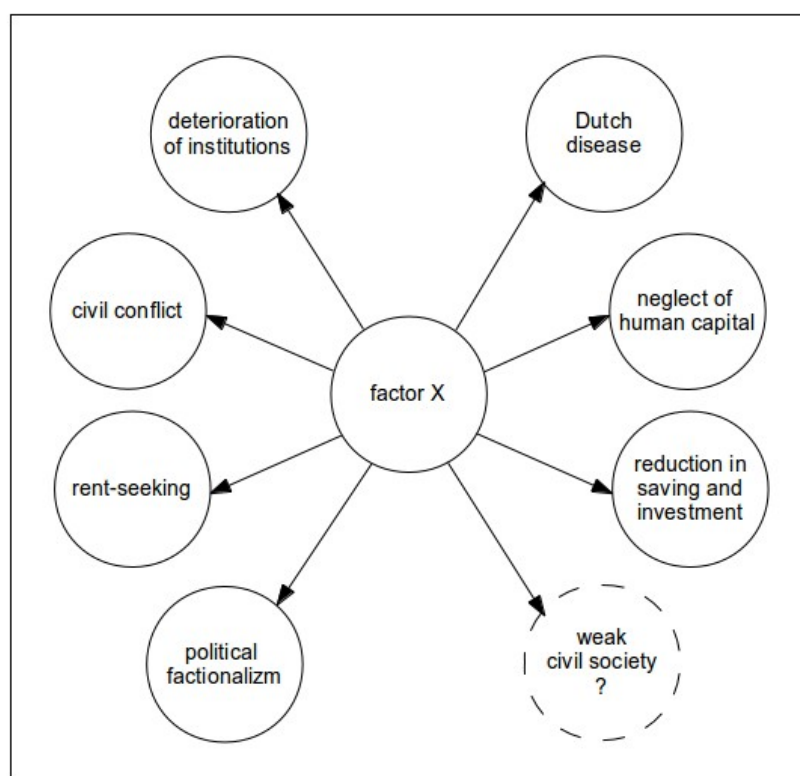
(Source: author's illustration on the basis of Farzanegan, 2013)

With the term Dutch disease economists describe the unpleasant side effects that appear during a boom of natural resources. Thus, an upward swing in the world price of oil will, on the one hand, change the structure of economy and on the other hand, it will cause a real

exchange rate appreciation, whether through nominal currency appreciation or through money inflows and inflation (Frankel, 2010). Change in the structure refers to the movement of capital and labour to the non-tradable sector, because more returns are expected from the mostly oil-related goods and services. Additionally, there is a rise in the demand of tradables and non-tradables, and an increase in the price of non-traded goods relative to traded non-oil goods, because resources are drawn out of non-oil traded goods (Frankel, 2010; Stevens, 2003). Hence, more imports are necessary. This increases government spending, international debt, and dependence on oil revenues. Overall, the natural resource booms hinder the industrial sector, which is a main driving force of the economy, either through real exchange rate appreciation, which harms non-oil exports, or through the reallocation of production factors (Gylfason, 2001; Torres et al., 2013).

Furthermore, Torres et al. (2013) highlight side effects that can be linked to the Dutch disease, because they are related to dereliction of non-oil-related sectors, for example disincentives for entrepreneurship (Mehlum et al., 2006; Torvik, 2002), decrease in savings and physical investments, and lower investment in education and human capital. The latter is another transmission channel, because the natural resource wealth may blind a government to the need for educating the future generations, and thus, the government will neglect the development of human capital and reduce its spending on education. Gylfason (2001) shows that natural resource abundance tends to be inversely related to school enrolment at all levels, while the former is measured by the share of the labor force engaged in primary production. Moreover, quality of education and human capital, especially when measured through secondary-school enrolment, are considered to have a statistically significant positive effect on economic growth[5]. Thus, the trust in everlasting revenues from natural resources leads to the neglect of human capital, and this will affect the economic performance. On the basis of Gylfason's (2001) findings, Wadho (2014) developed a model in which he assumes that education and corruption are jointly determined and depend on the endowment of natural resources. He explains that the inequality in access to education and political participation, and the cost of political participation, will decide whether natural resources stimulate growth or induce a poverty-trap. Moreover, profitable rent seeking requires time investment in political capital accumulation, which crowds out time invested in education. Overall, natural resources negatively affect the incentives to invest in education and increases the risk of rent seeking, which in turn determines the rate of growth.

One of the most common explanations, and hence an important transmission channel, is the

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5   A more detailed presentation of the relationship between education and growth in 2.2.1, with an overweight of studies that give empirical evidence for a statistically significant positive relation, such as Barro (1991, 2013), Benos and Zatou (2014), Blomström et al. (1992), Levine and Renelt (1992), Mankiw et al. (1992), and Sachs and Warner (1997).

existence of rent-seeking activities in countries with natural resource abundance. As natural-resource-rich economies promise extremely large rents, they will attract and create rent-seeking actors that will contribute to the allocation of resources, like in Dutch disease, and to the increase in corruption as well as the decrease of entrepreneurship. First, Leite and Weidmann (1999) argue in favour of direct negative effects of corruption on growth, in spite of the manifold literature on this topic, and the negative effect through decrease in investments in non-resource-related sectors. Overall, they show that corruption plays an important role in explaining growth in resource-rich countries, while the extent of corruption depends on institutions and government policies. Second, Torvik (2002) developed a model to explain how rent-seeking reduces the incentives for entrepreneurs to run productive firms. He shows that more natural resources are likely to stimulate rent-seeking, and this results in fewer manufacturing firms and lower average productivity. Overall, the resulting drop in income will outweigh the positive growth effects of natural resources, and thus the economy will suffer a decrease in welfare and income.

Furthermore, Bjorvatn and Naghavi (2011) study the role of rent-seeking in another familiar transmission channel of natural resources, namely civil conflict. They build on the work of Collier and Hoeffler (1998) which shows that the risk of civil war increases with resource rents, because rent-seekers might be interested to get their share of the revenues. In addition, Ross (2012, p. 145-188) finds that among low- and middle-income oil-producing countries it is more than twice as likely to have civil wars, but in practice oil is never the only factor. In the complex relationship between oil and conflict, he identifies secrecy as a possible trigger, more precise the lack of transparency concerning the size of oil reserves and the amount of revenues. But he admits that as long as the locals benefit from the oil income, there should be no civil war. Furthermore, he shows with case studies that oil can be a source of rebel funding and can encourage separatism, which both can increase instability. In contrast, Bjorvatn and Naghavi (2011) argue that resource rents can both trigger conflict by greedy rent-seekers and promote regime stability through patronage payments. The latter can also be reached through clientelist rule or policies such as increasing public sector employment with the aim to reduce the risk of conflict and stabilize the rule. In their model, the two authors try to bridge the gap between conflict-triggering and the regime-stabilizing effects of resource rents. At the beginning, the resource-rich countries may pacify opposition groups by handing out favours, but while the rents increase, they will also attract more interest groups. This situation makes it more costly for governments to continue pacifying transfers and credible commitments. Here, it becomes clear that the chance of conflict and rent dissipation is highest for intermediate levels of resource rents. If the governments cannot

maintain handing out favours, the costs of conflict for the rent-seeking groups will be reduced, and hence they will become a factor of instability. But Bjorvatn and Naghavi (2011) describe an inverted U-shaped relationship between primary export dependence and the probability of civil war. Thus, the risk of civil conflict will be reduced by an increase in rents, beyond a critical level of resource rents. Therefore, the effect of polarization on conflict depends on the level of resource rents.

This brings us to the next transmission channel of natural resources, the political factionalizm, that was introduced in more detail by Bjorvatn et al. (2012, 2013), especially with their case study of Iran. Thus, polarization is not just affecting the risk of conflict, but several interest groups are also engaging inside the political system to benefit from the natural resource rents, for example represented through factions in the parliament that struggle for power. The authors' model builds on the already explained rent-seeking model of Torvik (2002) with the addition of differences in rent-seeking technology between the groups that compete for political power. When the distribution of power between influence groups is relatively balanced, an increase in resource rents can lead to a reduction of income, for instance through destructive competition that can erode the effectiveness of oil revenues in the economic growth process. Bjorvatn et al. (2013) identify this process in the post-revolutionary factionalized system of Iran. On the contrary the model shows that an increase in rents is likely to have a positive effect on income when one group dominates the political arena. Overall, their empirical results show that the more balanced the distribution of power among political factions, the less positive is the contribution of oil revenues to economic growth. This supports the model, and hence we can argue that a higher degree of political factionalism dampens the positive growth effects of oil rents.

The deterioration of institutions is also a widely accepted transmission channel for the oil curse, because the quality of institutions is considered to be important to fight corruption, as Sala-i-Martin and Subramanian (2003) show for the case of Nigeria, where corruption related to oil has been responsible for its weak long run economic performance. Furthermore, Leite and Weidmann (1999) found that strong institutions can curb the negative growth effects of corruption in the case of natural resource abundance especially in low developed countries, for example through monitoring and systems of checks and balances. Moreover, there are authors who argue that in countries which are dependent on point source natural resources are predisposed to heightened economic and social divisions and weakened institutional capacity (Isham et al., 2005). These resources have the attribute to be geographically concentrated, such as oil. Thus, these kind of resources affect the quality of institutions negatively, for example through the impairment of the ability to respond effectively to shocks,

and harm in this way the economic growth. A similar argument comes from Sachs and Warner (1995b) who highlight the negative effects of rent-seeking that lead to deterioration of institutional quality. Mehlum et al. (2006) start with arguing that it is important to look at the quality of institutions at the time oil is discovered. At this point, the quality of institutions will decide over the future role of institutions. When institutions are grabber friendly, they will influence the income negatively, for example when resource abundance attracts scarce entrepreneurial resources out of production and into unproductive activities. But if they are producer friendly, resources will increase income. In their study, Mehlum et al. (2006) oppose Sachs and Warner (1995b) and other authors that argued in favour of a institutional decay caused by resource abundance. The former declare the combination of resource abundance and weak institutions to be the cause for the resource curse.

Another already mentioned transmission channel is the reduction in saving and investment that is linked to some other channels, because those might harm the atmosphere for investments. First, Gylfason and Zoega (2006) show that a rise in the the share of output that accrues to the owners of natural resources will reduce the demand for capital, and this leads to lower real interest rates and less rapid growth. They argue that natural capital may on average crowd out physical and human capital, and hence impede economic growth. In addition, their empirical results suggest that heavy dependence on natural resources may hurt saving and investment indirectly by slowing down the development of the financial system. Second, the low quality of political and economic institutions might reduce investments. This relationship was studied by North (1990) and Mauro (1995). The latter follows the argument of the former and tests some of the assumptions empirically. Overall, they see malfunctioning government institutions as serious obstacles to investment, entrepreneurship, and innovation, because an efficient judicial system is necessary to enforce contracts which are essential to economic life. If property rights over physical capital, profits, and patents are not protected, investors will be frightened away. This is also supported by Farzanegan (2013) who argues that the missing rule of law might distract investors, because of the high risks. Moreover, corrupt and cumbersome bureaucracies may delay the granting of permits and licenses, which might slow down technological advances. Third, the fear of instability, caused by civil conflicts or complicated political constellations, might also reduce investments.

The next transmission channel will be the contribution of this work to the natural resource curse literature. While civil society fulfils several functions in society, the argument is that a weak civil society might be a channel which facilitates the negative effects of natural resource abundance on economic growth, because of the dereliction of its important functions.

Paffenholz and Spurk (2006) identify seven functions of civil society from which at least three are important in this context[6]. First, the monitoring and promotion of accountability and transparency, for example through CSOs such as the Extractive Industries Transparency Initiative (EITI) or Transparency International. The former sees the participation of civil society as fundamental to achieving its objectives. In January 2015, EITI published a guidelines for its 48 member countries that includes a protocol for the participation of civil society. It includes the demands for free expression of opinion and free operation regarding the EITI process (Bartlett and Rogan, 2015). Overall, both these CSOs fight against corruption and promote transparency. This goes along with Ross (2012) who highlights the problem of secrecy. Second, advocacy and public communication is another function of civil society which includes raising public awareness for issues such as poverty, inequality or pollution. These problems can arise in resource-rich countries, and thus civil society may put pressure on the governments to solve them.

Third, the CSO's service delivery is especially important for the human capital because Salamon et al. (2004, p. 25) show that 37% of CSO workforce engage in the fields of education and health in their sample of 33 countries. In resource-abundant countries we would suggest that the state provides most of the jobs in the service sector. Moreover, we see a dereliction of education, measured through decreasing school enrolment, in these states (Gylfason, 2001; Wadho, 2014). Therefore, weak civil society might further worsen the situation of education. In addition, there might be a lack of other services that are normally provided by civil society. Overall, civil society can play a moderation role in the resource curse, or more precise it can counteract some transmission channels. But if civil society is too weak, it might worsen the situation. On the contrary, one might argue that a strong civil society can foster protests, and hence increase instability. This could decrease investments. Another possibility is that the high resource rents are used to silent protest and interest groups (Bjorvatn and Naghavi, 2011), and thus weaken civil society

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6   A full presentation with detailed examples in 2.2.2.

2.2. Review of Empirical Literature

In the former part we have seen the theoretical backgrounds that explain economic growth, civil society and the role of natural resources. Now is the time to look at the empirical results of authors who applied these theories. We will see that there is no final consensus about the impact of most determinants for economic growth. A similar result comes from the literature about the resource curse, but the majority of the here presented publications argue in favour of at least some negative aspects of natural resources. The part about civil society will mainly show positive effects of civil engagement.

2.2.1 Determinants of Economic Growth

There is a wide range of studies that has used different methodical frameworks to test the existing theories, which were briefly introduced in 2.1.1, and thus to find the drivers of economic growth. But not just the determinants of growth are on the agenda of studies, another question is, why there are differences between countries in their economic development. The latter will not be part of this review, but refers to studies on convergence[7]. Inside the literature, there is not just a pro and contra side, but a difference in the understanding of the origin of technological process (Baumol et al., 2007, pp. 49-50). On the one side, the Solow-side, technological progress is shaped by forces outside the economic system, like for instance climate (through diseases), geography (through cost of transportation), institutions, or culture. For this reason it seems to be hard for policy makers to influence it, at least in the short run. On the other side are the more optimistic economists who believe productivity and technological advance can be encouraged with the right policies in the short or intermediate run, for example by promoting more trade openness, or by increasing spending on research and development, or by increasing human capital through education, or by gentle macroeconomic policies.

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7   Some of these studies include: Aghion et al. (2009), Barro and Sala-i-Martin (1991), Barro (1991, 2013), Mankiw et al. (1992), Sachs and Warner (1995a), Levine and Renelt (1992)

2.2.1.1 Openness, Trade Liberalization, and FDI

Beginning with openness to trade, because we learned from Smith that division of labour and specialization gives a comparative advantage and allows economies of scale, and thus more trade is necessary. Many studies have confirmed the positive effects of trade openness to growth. Dollar (1992) shows with his sample of 95 countries, which he considered to be developing countries, for the period between 1976 and 1985 a statistical significant relationship between growth and outward orientation. But he admits that this correlation does not mean causation, and that there could be a problem with omitted variables. The causation problem is addressed by Frankel and Romer (1999). They use country geographic characteristics as instrumental variable, IV, and estimate cross-country regressions of the log-level of per capita income on trade volumes, interpreting cross-country differences in income levels as reflecting growth in the very long run. Given the assumptions that geography is a robust predictor of trade and given the exogeneity of geography. Finally, they conclude that (the geographic components of) trade raises income, and inner-country trade also increases income.

Another study by Dollar and Kraay (2000) focuses on post-1980 globalizers, including China, India, and other large countries, showing that these countries had strong outward oriented policies, like tariff cuttings, and a high increase in trade volume. Additionally, the authors used a cross-country growth regression, including roughly 100 countries, to show that changes in trade volumes have a strong positive relationship to changes in growth rates, while focusing on within country variation and addressing the three problems: measurement error, omitted variables, and endogeneity. Other than Frankel and Romer (1999) these estimates reflect the effect of changes in trade on changes in growth, and thus they do not reflect the effect of geography-induced differences in trade. Furthermore, there are authors who focus more on the effects of trade policies, like Edwards (1992, 1998), or Sachs and Warner (1995a), or Greenaway et al. (2002), or Yanikkaya (2003). Edwards concludes that there is a strong and robust relationship between trade orientation and economic performance, meaning less restriction on international trade increases productivity growth. He estimates his cross-country approaches with different specifications, with altogether ten different proxies for trade liberalization. Greenaway et al. (2002) argue that liberalisation may impact favourably on growth of real GDP per capita, but effect would appear to be lagged and relatively modest. This seems plausible, because different liberalisation policies vary in their depth and intensity, and thus there is no direct shift to free trade. They use a model with panel data for 73 countries.

Furthermore, Yanikkaya 2003 ties on the previous cross-country works and separates the used indicators into two groups: trade volumes and trade restrictions. He confirms the statistically significant positive relationship between the first group of indicators, which measure trade volumes, and growth. But on the contrary, his results give evidence for the assumption that those variables of trade restrictions have a positive relationship with growth. In other words, restrictions on trade can promote growth, especially in developing countries under certain circumstances. But the role of trade openness and liberalization is still an ongoing discussion and critique remains. Mainly criticized is the robustness of the cross-country data approaches (Levine and Renelt, 1992; Srinivasan and Bhagwati, 1999; Rodriguez and Rodrik, 2001; Vamvakidis, 2002), and the aspect that empirical results differ depending on the chosen time periods (Levine and Renelt 1992; Harrison, 1996; Vamvakidis, 2002). Some other authors criticize the quality of the data (Srinivasan and Bhagwati, 1999) or the negative relationship between trade barriers and growth (Rodriguez and Rodrik, 2001; Yanikkaya 2003).

Another possible determinant of economic growth is foreign direct investment, FDI, which is used in some studies as a proxy for trade openness (e.g. Wacziarg, 2001). Additionally, Wacziarg (2001) identifies six channels through which trade policy can affect growth, namely macroeconomic policies, the size of government, price distortions, factor accumulation, technology transmission, and foreign direct investment. An often cited study comes from Borensztein et al. (1998), in which they show for 69 developing countries that FDI have a positive statistically significant effect on economic growth, but only if the country has a minimum stock of knowledge. Otherwise, it has a negative effect. They argue that the positive effect comes from rather from efficiency than from the mere presence of new capital, which they derive from the comparison with the results of domestic investment, which does not need a specific stock of knowledge to have a positive effect on growth. Furthermore, they found no empirical evidence for crowding-out effects of the FDI. In contradiction to the domestic investment, the foreign investment is an important channel for knowledge transfer to developing countries (compare Findlay, 1978; Wang, 1990) and interacts with human capital in their effect on growth.

Similar results come from different authors in their regional studies, for instance Adams (2009), and Raheem and Oyinlola (2013) for Africa, or Seetanah (2009) for Sub-Saharan Africa, or Sghaier and Abida (2013) for North Africa, or Chee (2010) for Asia and Oceana, or Pradhan (2010) for India, or Bende-Nabende et al. (2003), and Bayar (2014) for East Asia, or De Gregorio (1992) for Latin America. Nevertheless, there seems to be an endogeneity problem, because on the one hand FDI might cause growth, but on the other hand growth

could as well encourage FDI (Pradhan, 2010; Seetanah, 2009). To test for this Choe (2003) uses Granger causality test and found double causality for FDI and economic growth, with his sample of 80 countries over the period 1971 to 1995. He also found that economic growth robustly Granger- causes gross domestic investment, GDI. In addition to this, some of the before mentioned authors highlight the importance of the development of the financial system, for example Sghaier and Abida (2013), and Raheem and Oyinlola (2013), and Chee (2010), so a bad developed financial system might reduce the positive effect of the FDI.

But this is not the only country specific aspect that might influence the effect of the FDI, Freckleton et al. (2010) show for 42 developing countries that corruption has a significant influence on per capita GDP in the short run, but is not significant in the long run. Additionally, they found that lower levels of corruption enhance the impact of FDI on economic growth. Overall, the effect on economic growth from FDI is linked to several factors such as the trade regime, the human capital base in the host country, financial market regulations, banking system and the degree of openness in the economy. Ozturk (2007) summarizes five channels through which FDI affects growth: First, it increases capital accumulation in the receiving country by introducing new inputs and technologies. Second, it raises the level of skills and knowledge through training. Third, it increases competition in the host country industry by reducing entry barriers and the market power of existing firms. Forth, it can encourage the adoption of new technology in the production process through capital spillovers. Fifth, the FDI may stimulate knowledge transfers, for example in terms of training and management techniques.

But in contrast to this, there is also a path in literature that argues in some ways against the positive effect of FDI on growth, for instance Carkovic and Levine (2002), Lensink and Morrissey (2006), or Mencinger (2003). The former use the GMM panel estimator to control for previous problems, so their results show that the exogenous component of FDI does not exert a robust, positive influence on economic growth. But they admit that the results should not be viewed as suggesting that foreign capital is irrelevant for long- run growth. Lensink and Morrissey (2006) introduce measures of the volatility of the FDI, which have a significant negative effect on growth, but the FDI has a positive effect on growth, although this result is somewhat weaker for developing countries. Finally, Mencinger (2003) shows for eight transition countries , Eastern European countries, in the period 1994 to 2001 a statistically robust negative causal relationship between FDI and growth. This supports other studies that link the positive effects of FDI to a specific framework, such as knowledge stock, development of financial system or level of economic development in general.

2.2.1.2 Saving and Investment

Nevertheless, foreign direct investment is an important factor for economic growth, but domestic investment counts to one of the most fundamental determinants of economic growth, which is acknowledged by both the neoclassical and endogenous growth theories. The former have impact on the transitional period, while the latter argue for more permanent effects (Arvanitidis et al., 2009). As seen in 2.1.1, it is one of the main determinants of economic growth in the Solow model, which assumes exogenous technological progress. Therefore, it is no wonder that so many studies focus on this aspect. Important empirical works in the 1990s come from Mankiw et al. (1992), De Long and Summers (1992), Auerbach et al. (1994), Blomström et al. (1993), Sala-i-Martin (1997), Barro (1991) and Levine and Renelt (1992).

First, Mankiw et al. 1992 examine the augmented Solow growth model and found as expected that the rate of saving and population growth have a statistically significant positive effect on economic growth. But they argue that the effect is too large, because human capital is correlated with the other explanatory variables and with income as well. This omitted variable causes a biased estimation, so they introduced human capital as a control variable. After adding the new variable, the model explains almost 80% of the cross-country variation in income per capita in non-oil, sample of 98 countries, and intermediate countries, sample of 75 countries. Second, De Long and Summers (1992) affirm a strong causal relationship between equipment investment and economic growth, through the channels of technology and capital goods. They see the equipment investment as catalyst for learning-by-doing and development of new operating procedures. Furthermore, they test for causality with different instrumental variables and additionally argue that the negative association between equipment prices on the one hand, and equipment investment and growth on the other hand, give a small evidence for the causal relationship from investment to growth. But again, the framework of individual countries seems to be an important aspect, because they admit that there is no positive effect in less developed countries, for example in SSA, or in centrally planned economies.

In contrast to this, Auerbach et al. (1994) deny the effect of equipment investment and give empirical evidence for their claim. Additionally, Sala-i-Martin (1997) provides in his paper some statistically significant determinants for economic growth, which includes non-equipment investment. Similiar results come from Barro (1991) and Levine and Renelt (1992). The former shows that the ratio of real government consumption expenditure to real GDP has a significantly negative association with growth and investment. He argues that

government consumption has no direct effect on private productivity or private property rights, but lowered saving and growth through the distorting effects from taxation or government-expenditure programs. The latter tie on previous results and confirm a positive robust correlation of long-run growth with the share of investment in GDP, and with the investment share or ratio of international trade. On the side of critics are Blomström et al. (1993), who claim to have not found evidence that fixed investment is the main source for economic growth, by testing for the direction of causation. They see rather a causal effect from growth to capital formation. These results go along with De Long and Summers (1992), who warn about aggressive policies that try to stimulate investment. But in the end they do not deny the positive relationship between investment in fixed capital and economic growth in the long-run.

The latest papers also address causation issues. Thus, Anwer and Sampath (1999) use Granger causality test with their sample of 90 countries for the period from 1960 to 1992 and they found causality, but not clearly in one direction. This is confirmed by Podrecca and Carmeci (2001), who show that investment shares Granger-cause growth rates and growth rates Granger-cause investment shares. Similar to Attanasio et al. (2000), the Granger causality from investment shares to growth rates is found to be negative. Furthermore, Bayar (2014) shows for his sample of emerging Asian economies bidirectional causality between economic growth and gross domestic saving, gross domestic investment and FDI inflows in the short run. In addition, he founds bidirectional causality between economic growth and gross domestic savings, gross domestic investment and unidirectional causality from FDI inflows to economic growth in the long run. In contrast to this, Choe (2003) shows for his sample of 80 countries over the period from 1971 to 1995 that GDI does not Granger-cause economic growth, but economic growth robustly Granger- causes GDI.

Attanasio et al. (2000) and Aghion et al. (2009) shed some light on the link between saving, investment, and growth. The former show in their sample of 123 countries over the period 1961 to 1994 that lagged saving rates are positively related to investment rates, as well as lagged investment positively Granger-causes saving in almost all their constructed cases. Furthermore, investment rates Granger-cause growth rates with a negative sign, and growth rates Granger-cause investment rates with a positive sign. The latter use a sample of 118 countries in their panel over the period from 1960 to 2000 and show a significantly positive association between savings and productivity growth in the medium term (ten years going forward). Additionally, their regression shows that lagged savings is positively associated with productivity growth in poor countries but not in rich countries, because domestic savings can attract foreign investment to frontier technology, so domestic saving is an important factor for

adopting new technologies in developing countries.

2.2.1.3 Population Growth

Another important determinant, that also relates to the Solow growth model, is population growth or the changes in the size of the working-age population, which is commonly defined as people aged between 15 and 64. The increase of the size of population is an issue since the time of the classical economists. In the end of the eighteenth century, Thomas Malthus predicted that population growth would be faster than growth of food supply, and thus mass starvation would be inevitable (Baumol et al., 2007, pp. 35-36). His pessimistic view was proven wrong, for the moment. But until today, population growth is considered to have a negative relation to economic growth. Mankiw (2003, pp. 203-204) argues that high population growth could impoverish a country, because it is not that easy to keep a high level of capital per worker when the number of workers is growing fast. Thus, countries with high rates of population growth tend to have low levels of income per person. This correlation was the basis for poor countries to reduce fertility by increasing education about birth-control methods or by expanding women's job opportunities.

But Mankiw observes that this relationship is not just going into one direction. It is possible that birth-control techniques are available more easy in richer countries, which would encourage low population growth. Arvanitidis et al. (2009) add to the dependency ratio argument the explanation that high population growth might influence the investment and saving behaviour and quality of human capital. Nevertheless, some authors follow the neoclassical argument that implies that , if all countries are in the steady-state, the labor force growth has an one-to-one effect on income growth (Kormendi and Meguire 1985; Grier and Tullock 1989). Furthermore, they give empirical evidence for this with their data from the 1950s to 1970s. Blomström et al. (1992) shows for 101 countries over the period 1960 to 1985 shows that an increase in the labor force participation rate has a significantly positive effect on economic growth. This is also in some way confirmed by studies on demographic transition in Asia from Bloom and Williamson (1998) or Song (2013), who argue that the faster growing working-age population, compared to the total population, outweighed the negative impact of the population growth.

Song (2013) shows for her sample of thirteen Asian countries over the period 1965 to 2011 negative effects from growth in the total population and the young population on economic growth, but positive effects from growth in the working-age population and the working-age

population ratio. In contrast, the former are more critical. In their specifications Bloom and Williamson (1998) show no significant relationship between population growth and GDP per capita for the period 1965 to 1990, but when controlling for other variables, such as life expectancy or geography, there appears to be a positive significant relationship. Overall, they admit the difficulties in explaining the role of population growth for economic growth. In addition to population and labor force size, there are other demographic aspects mentioned in literature, such as age structure (Bloom et al., 2001; Prskawetz et al., 2007), population density (Bloom and Sachs, 1998) and migration (Arvanitidis et al., 2009). For the population density, we have arguments for a positive connection to economic growth, because high population density can increase specialization, knowledge concentration and can lower infrastructure costs. The role of population composition or changing age structure is especially highlighted by Bloom et al. (2001), who show that the demographic transition offers significant opportunities for developing countries, when combined with the right policies. But a large young population does not necessarily imply a demographic gift, like in East Asia.

On the other side, there are challenges for the countries, when the population is becoming older and the fertility rates are low, as Prskawetz et al. (2007) show for the case of the EU-15. The increasing dependency rates in the population will have negative effects on per capita GDP growth. Overall, the population growth alone seems to have a negative effect on growth, while the growth of the working-age population, and thus the labor force, has a positive effect on growth. But it's not that easy, as some authors recognized (e.g. Bloom and Williamson, 1998; Kelley and Schmidt, 1995), and it seems to depend on other factors, like geography, institutions or age structure . Therefore, some authors give empirical evidence for positive, negative or no relationships between the before mentioned variables. Following Dawson and Tiffin's (1998) approach for India, Thornton (2001) shows no empirical evidence for a long-run causal relationship between population growth and per capita GDP for his sample of eight Latin American countries. Furthermore, Furuoka (2009) shows unidirectional causality from population growth to GDP growth using Granger causality test for his case study on Thailand over the period 1960-2003. But he admits not controlling for all factors mentioned in literature. In addition, Bucci and La Torre (2007) bring other factors into play with their two-sector endogenous growth model. They found out that population growth may have a negative or ambiguous effect on a country's economic development, namely, when physical capital and human capital are substitutes, the population growth has a negative impact on the economic growth.

2.2.1.4 Human Capital, R&D, and Technological Progress

Here, we see another important driver for economic growth, namely innovation and technological progress, which is even seen as a key driver of long-term growth (among many others, for instance Borensztein et al., 1998). This technological advance is linked to R&D, education, and human capital. On the one hand investment in R&D might stimulate innovation, and on the other hand investment in education or education promoting policies will increase human capital, which makes it more likely to encourage technological progress. Furthermore, it's not just these links that make technological advance so important, but it also separates the neoclassical economists in the twentieth century mainly into two groups, the followers of the (in some aspects) outdated Solow growth model and the supporters of endogenous growth theories.

First, Mankiw et al. (1992) apply an augmented Solow growth model and implement human capital in some of the estimations, using human capital investment in the form of education as a proxy, or more specific: percentage of working-age population that is in secondary school. They show that, when human capital is omitted, there is an omitted variable bias that affects the coefficients on physical capital investment and population growth, thus its addition improves the model. Education is significantly affecting income per capita in all their samples. Moreover, Blomström et al. (1992) underline the importance of education, especially for developing countries. They show a positive relationship with income growth. A more detailed analysis comes from Barro (1991, 2013), who looks at some of the components of human capital, which include education, health, and aspects of social capital. He found, for his sample of around 100 countries between 1960 and 1995, significantly positive effects of years of schooling and international test scores on economic growth. The latter proxy refers to quality of education, which is also confirmed by Hanushek and Kimko (2000), who found a consistent, stable, and strong relationship of labor force quality and economic growth.

They conclude that the differences of quality among countries are related to schooling, and that there is a positive causal effect from quality to economic growth. Similar results come from Levine and Renelt (1992), Sachs and Warner (1997), Krueger and Lindahl (2001), Cooray (2009), and Benos and Zatou (2014) for different periods and samples. Hence, Benos and Zatou (2014) show in their analysis of existing literature – 57 studies with 989 estimates – that there is a is substantial publication selection bias toward a positive impact of education on growth. However, there have been authors who have questioned this significant

impact. An early critic comes from Benhabib and Spiegel (1994), who use several proxies for human capital, for instance educational attainment of the labor force or literacy. They show that the log difference in human capital enters insignificantly, and almost always with a negative coefficient in different models. But in one of the specifications, in which the growth rate of total factor productivity depends on a nation's human capital stock level, the model indicates a positive role for human capital.

This is backed by Pritchett (2001), who receives similar results. More empirical evidence against the positive significant results comes from, Bils and Klenow 2000, who analyse the causality running from schooling to growth. Their results show that that the channel from schooling to growth is too weak to plausibly explain more than one-third of the observed relation between schooling and growth. This is assumed to be the result of omitted factors. In contrast, Temple (1999) criticises Benhabib and Spiegel (1994), because the correlation between increased human capital and growth may sometimes be hidden in the cross-country data by a number of unrepresentative observations. Thus, a problem comes from outliers and sample composition. Other authors found more problems concerning this relationship, for example low data quality for educational attainment, specification of human capital, measurement error, reverse causality or omitted variables (Barro, 2013; Benos and Zatou, 2014; Krueger and Lindahl, 2001). The second knowledge-related determinant of economic growth is investment in research and development, which was already mentioned in the summary of literature about trade and FDI, and also touched in the part about investment. Thus, on the one hand trade can transfer technology into a country (e.g. Findlay, 1978; Grossman and Helpman, 1990), and on the other hand investment in R&D either from domestic or from foreign sources can promote innovation.

An early study comes from Fagerberg (1987), who looks at the period from 1960 to 1983, including 25 industrial countries. He found a close correlation between the level of economic development and the level of technological development, measured by data on R&D or patents. But when he changes the sample composition, by excluding non-OECD countries and the USA and Japan, then the explanatory power diminishes. Moreover, Lichtenberg (1992) shows that privately-funded R&D investment is found to have a significant positive effect on productivity, more precise, it seems to be seven times as large as the return to investment in equipment and structures. Another study comes from Ulku (2004), who analyse the relationship between R&D investment, innovation, and per capita GDP growth with data of twenty OECD and ten non-OECD countries for the period from 1981 to 1997. They show that R&D investment increases innovation and that there are constant returns to innovation. Furthermore, a strong positive relationship between innovation, proxied by patent

stock, and per capita GDP. Overall, common problems arise in these studies. First, it seems that the role of innovation is more a theoretical premise than an empirical result. This is of course depending on the theoretical background, namely if technological progress is assumed to be exogenous or endogenous. Second, the role of technology spillovers is underestimated in a part of the literature. This is connected to one of the used proxies, the number of patents, which seems to be inadequate, because the protection of patents is not guaranteed on the whole world. Third, as seen in studies with other important determinants, the sample composition and size is an issue.

2.2.1.5 Institutions

One of the most important determinants of economic growth, that is especially highlighted since the 1990s is the role of institutions. But it's a wide field, and the discussions range between the characteristics and influence of institutions, geography, culture, and governance, and their relationship to economic development, while the term institutions describes "humanly devised constraints that structure political, economic and social interaction" (North, 1991, p. 97). Hence, we can differentiate broadly between political institutions and economic institutions, but there are also social entities that can hardly be put into one of the two categories, like for instance marriage or civil society. Nevertheless, we have a vast amount of literature available. First, Acemoglu et al. (2000) show the historical evolution of institutions and try to find empirical evidence for their impact on economic development. They link the quality of institutions in former colonies of European countries to the intention of staying there for a longer time. Their results show that differences among institutions, explain approximately three-quarters of the income per capita differences across former colonies. But once controlled for the effect of institutions, the geography plays a role for income differences.

Furthermore, in Acemoglu et al. (2005), they confirm the important role of institutions for the differences in economic development across countries. In addition, they create a theory that explains how political power links economic and political institutions. They also show why institutions are important. First, they compare the development of North and South Korea, which is seen as a quasi natural experiment, in which two roughly similar parts of a former united country develop different sets of institutions. These lead over the years to large differences in economic development. Another similar comparison comes from Feld and Kirchgäßner (2008), who use the partition of Germany as an example. Moreover, Bloom and

Williamson (1998) highlight the role of institutions in the East Asian growth miracle between the 1960s and 1990s. They argue that institutions gave these countries the necessary framework to benefit from demographic transition. From these examples, we can see that institutions matter for economic development.

Some empirical evidence for the relationship between economic institutions, measured through property rights, and economic performance comes from Torstensson (1994), Knack and Keefer (1995), and Vijayaraghavan and Ward (2001). First, Torstensson's (1994) estimations show a significant negative relationship between arbitrary seizure of property and economic growth, for his sample of 68 developed and developing countries between 1976 and 1985, and a negative but insignificant correlation between growth and the degree of state ownership of property. He sees two reasons why property rights matter. One the one hand they lead to more efficient use and allocation of human capital, and on the other hand they encourage investment to occur in sectors that have a high private return to capital. Similar results come from Knack and Keefer (1995), who use different risk indices, that include aspects referring to both economic and political institutions, to measure institutions and especially property rights. They conclude that institutions that protect property rights are crucial to economic growth and to investment, because they show significant positive effects in the estimations. Additionally, the effect of institutions on growth persists even after controlling for investment, so property rights affects not only the magnitude of investment, but also the efficiency with which inputs are allocated. This is also supported by Vijayaraghavan and Ward (2001) for their sample of 43 countries over the period from 1975 to 1990.

Acemoglu et al. (2005) agree with the arguments for the importance of property rights and receive similar results for their sample from 1985 to 1995, but they criticise the possibility of reverse causation and omitted variable bias. One possible missing variable could be geography, since there is a part of literature that highlight geography and culture as factors that influence development of institutions, or even affect economic performance independently. Thus, Sachs (2003) shows that malaria transmission, which is strongly affected by ecological conditions, directly affects the level of per capita income after controlling for the quality of institutions. Aside diseases, factors such as climate and agricultural challenges are mentioned in literature about the effect of geography. In contrast, Rodrik et al. (2004) bring results in favour of institutions, but they admit that geography might affect growth by influencing institutions. Furthermore, they show that trade is almost always insignificant after controlling for institutions. But institutions cannot be simplified just to property rights, as Ogilvie and Carus (2014) argue. In addition, they oppose some of the historical arguments about the development of differences among institutions from Acemoglu

et al. (2000, 2005) and others.

Hence, we have to look at political institutions and governance, which seem to be inseparable from economic institutions. Many previously mentioned studies included political variables, for instance Barro (1991), Edwards (1992), Grier and Tullock (1989), Kormendi and Meguire (1989), Mankiw et al. (1992). More empirical works come from Scully (1988), Mauro (1995), or Siddiqui and Ahmed (2009). First, Scully (1988) shows that politically open societies that contain rule of law, private property, and market allocation of resources, will grow faster and more efficient. He uses in his estimations a sample of 115 countries over the period 1960 to 1980. Second, Mauro (1995) highlights the role of the judicial system, corruption and political stability. He shows a significant negative relationship between corruption and investment, as well as economic growth. This could be prevented through regulatory institutions. In addition, he finds evidence that bureaucratic efficiency causes high investment, and through this channel improves economic performance. Third, Siddiqui and Ahmed (2009) give a strong causal link between institutional quality and economic performance, using a GMM econometric model. Their own index of institutional quality consists of three sub-dimensions that all significantly and positively affect growth, especially institutionalized social technologies (1) and anti-rent seeking technologies (2) impact growth considerable more than the risk reducing technologies (3).

But there are also studies that focus on the causality and other critical issues. Chong and Calderon (2000) show that reverse causality does exist, and thus economic growth also causes improvements in institutional quality. In addition, they found that the poorer the country, and the longer the time period, the higher the influence of institutional quality on economic growth. Furthermore, Glaeser et al. (2004) analyse whether political institutions cause economic growth, or if growth and human capital accumulation lead to institutional improvement. Contrary to most literature, they criticise the three commonly used indicators, namely ICRG, WGI, and PolityIV, to be measurements of outcome, so these do not measure permanent characteristics. Moreover, the indicators are very volatile and rise with per capita income. Thus, there is a strong correlation with economic growth. Despite these measurement issues, the results of Glaeser et al. (2004) give evidence that human capital, measured by schooling, improves institutions. Overall, we see discussions about the direction of the relationship between institutions and economic growth. But despite the direct correlation of these two, institutions also affect other determinants of growth such as the physical and human capital, technological changes (e.g. Hall and Jones, 1999), investments (e.g. Mauro, 1995) and demographic transition (e.g. Bloom and Williamson, 1998).

2.2.2 Importance of Civil Society

After the increase in interest in the role of associations and NGOs in economic and societal development during the 1990s, today the interest in civil society is established in highly respected organisations and institutions such as The World Bank (WBG)[8], The World Economic Forum (WEF)[9], and The United Nations (UN)[10], as well as the UN-connected International Monetary Fund (IMF). Furthermore, parallel to the G-20 Summit in Australia in 2014, the first C-20 Summit[11], a platform for the dialogue between the political leaders of G20 countries and representatives of civil society, was hosted in Melbourne. This small selection affirms the ongoing importance of the civil society sector. Although, civil society is recognized by these actors to be more than just the sum of NGOs, we see the continuation of the global associational revolution that was described by Salamon (1994) and others. He showed an immense increase in the founding of NPOs, charity organisations, and private associations on the country level between the 1960s and 1980s in the USA, France, Italy, and the United Kingdom. The income of the UK charities was estimated at around five percent of GDP. With the fall of the Soviet Union this trend swept over to countries like Poland, Hungary, and Bulgaria. In addition, the Northern groups delivered 4.7 billion dollars of assistance to developing and transitional countries, and provided support for approximately 20,000 indigenous NPOs (Salamon, 1994).

In his later studies, Salamon et al. (2004, pp. 15-22) describe the civil society sector – or better NPO sector – as a major economic force with an aggregate expenditure of 1.3 trillion dollars as of the late 1990s, representing 5.4 percent of the combined GDP of the

8   The WBG and the IMF Civil Society Teams held a bi-annual Civil Society Program in the margins of the World Bank Group and IMF Spring and Annual Meetings in April 2015. This event offered the opportunity for a dialogue and an exchange of views between WBG and IMF staff, civil society representatives, government officials, and academics. The Civil Society Policy Forum included topics that covered issues related to the global economy, poverty reduction, inequality and climate change (The World Bank Civil Society Team: http://www.worldbank.org/civilsociety, The IMF Civil Society Team: http://www.imf.org/external/np/exr/cs/index.aspx, Civil Society Policy Forum Program: http://go.worldbank.org/PLZZGHDXF0, All Accessed on 09.05.2015).

9   In 2013 the WEF, in cooperation with KPMG International, published a report on The Future Role of Civil Society (Available at: http://www.weforum.org/community/civil-society, Access: 09.05.2015).

10 Inside the branched structure of the UN there are at least four entities that engage in civil society promotion and development. First, the IMF that is a specialized agency of the UN (see footnote above). Second, the NGO Section of the Department of Public Information (Available at: http://outreach.un.org/ngorelations/). Third, the NGO Branch of the Department of Economic and Social Affairs (Available at: http://esango.un.org/civilsociety/) with its Civil Society Network (Available at: http://esango.un.org/irene/). Fourth, the Non-Governmental Liaison Service (Available at:http://www.un-ngls.org/, More details on the UN-civil-society relations available at: http://www.un.org/en/civilsociety/, All Accessed on 09.05.2015).

11 Despite the four main topics (Inclusive Growth and Employment, Infrastructure, Climate and Sustainability, Governance), the final communiqué of the summit contains policy recommendation for the G-20 leaders that cover the entire range of civil society topics. such as human rights, inclusive growth, employment, education, income inequality, governance, climate change, gender equality, tax evasion, corruption, and infrastructure financing (Available at: http://www.c20.org.au/, Access: 09.05.2015).

investigated countries (See Table 8 for a list of included countries). In addition, the third sector in these countries is also a major employer with a total aggregate workforce of 45.5 million full-time equivalent (FTE) workers. This is on average 4.4 percent of the economically active population in these countries, varying between 14.4 percent in the Netherlands and 0.4 percent in Mexico. The latest data from 2012 for approximately 40 countries support these findings with 48.4 million FTE workers that represent 4.6 percent of the countries' economically active population (Salamon, 2014). Furthermore, Mencken et al. (2006) show for their sample of 399 counties of the Appalachia region in the United States that civic engagement does have a net positive impact on economic growth, in form of increases in private non-farm employment, per capita income, and earnings. Their three measures for civic engagement have significant positive effects in different specifications, whereas percent in civically engaged denominations has the most consistent effects.

In the *World Bank–Civil Society Engagement Review of Fiscal Years 2010–2012*, the authors show an increase in CSO participation in World-Bank-financed projects from 22 percent to more than 80 percent, starting in the 1990s to the recent decade. Parallel to that, the average share of CSOs in different financial instruments varies between 77 and 86 percent in the reporting period. Thus, between 2008 and 2010 the WBG provided through different funding mechanisms around 197 million dollars directly to CSOs. In the period between 2010 and 2012, the major funder out of 26 funding mechanisms provided 82.6 million dollars to CSOs, but the data in the report are incomplete (World Bank, 2013). More data from the Union of International Associations' (UIA) show an increase in international NGOs from 6,000 in 1990 to over 65,000 in 2013 (Schwab, 2013). Backed by this results it's no wonder that investors have discovered the fields of NGOs. In 2015, the Global Impact Investing Network (GIIN) and J.P.Morgan calculated 10.6 billion dollars of impact investments in 2014, and an upcoming amount of 12.2 billion dollars in the current year. Overall, the 146 investors, consisting of organisations and foundations, manage a total of 60 billion dollars in impact investment (Saltuk et al., 2015). This kind of investments focus on social and environmental issues, like for example gender equality, renewable energies and many more.

Nevertheless, NGOs and NPOs are only one part of civil society, maybe the core of it, but on the other hand, we have different forms of loose organized expression of opinion on political, social and economic matters, that were especially visible in recent years. In their study, Ortiz et al. (2013) found a total of 843 protests occurring in the period between 2006 and 2013 in 87 countries covering over 90% of world population (See Figure 3 in Appendix A). The most famous protests received catchy names such as Arab Spring, Jasmine Revolution, Pearl Revolution or Umbrella Revolution (Hanafi, 2011; Hilgers, 2015; Jones, 2013). The former

three refer to protests in the MENA region during 2011 and 2012 that found a continuation in the post-election protests in Egypt 2013. The latter refers to ongoing demonstrations in Hong Kong that originated in the Occupy Movement. Other protests occurred in Brazil in the wake of the Confederations and World Cups in 2013 and 2014, or in Turkey in the Gezi Park protests in 2013, or the Ferguson and Baltimore riots in the United States in 2014 and 2015 (Letsch, 2014; Rosenthal et al., 2015; Swaine and Lewis, 2014; Vickery, 2014). Some of them still ongoing. Furthermore, there are worldwide movements, like Occupy, Anonymous, and Femen.

The protesters' demands and grievances are put into four categories by Ortiz et al. (2013), namely Economic Justice/Anti-Austerity, Failure of Political Representation and Political Systems, Global Justice, and Rights of People (See Figure 3 in Appendix A). Thus, people protest against pollution, income inequality, corruption, discrimination, capitalism, food and energy prices, and unemployment, or demand for human rights, gender equality, as well as basic civil and political rights. Therefore, protesters and CSOs are united in their targets. This becomes even more clear when we look at the protests and demonstrations that are often organized or supported by associations, NGOs and NPOs. But the civic engagement outside the organisations has the advantage to be more flexible, for example in countries with restrictions on NGOs. Long (2015) describes this hostile atmosphere for NGOs in Central and East Asia where laws were changed in recent years because governments fear the foreign influence through the funding of organisations, and they fear an impact on economic performance by groups that promote worker's rights or environmental awareness. But the scepticism towards professional NGOs comes sometimes also from the base, hence from the small grass-root movements, independent protesters or regional branches of NGOs. They criticise distance from the base, and in some cases the entanglements with corporations that try to benefit from the trust in NGOs (Edwards, 2014, pp. 18-43).

Nevertheless, Edwards (2014, pp. 18-43) argues that the associational life in the MENA region was a basis for the Arab uprisings, commonly known as Arab Spring. Despite the differences among MENA countries, there are many Islamic organisations, secular NGOs, think tanks, woman's groups, labor unions, media outlets, and bloggers that all coexist and sometimes cooperate. Members of these associations were active in the protests which Edwards compares with the experiences from Eastern Europe in the 1990s. This example shows not just the importance of organised civil society but it shows also that protests and NGOs/NPOs go hand in hand to form civil society. So far, we have seen an increase in the amount of CSOs and in the number of protest, hence the next step is to look at the channels through which civil society affects society, economy, and politics. Overall, the literature offers

empirical evidence for at least six important roles or functions of civil society, such as protection of citizens, monitoring and promotion of accountability and transparency, advocacy and public communication, socialization and community building, intermediation between citizens and state, and service delivery (Paffenholz and Spurk, 2006, p. 13; Schwab, 2013, p. 9). But the literature on civil society is dominated by case studies of countries, world's regions, and regions inside countries. Additionally, there are approaches to find a global civil society, in most cases represented by transnational NGOs. Hence, I will present examples for each of the six function, and thereafter give some results from a global perspective.

2.2.2.1 Functions of Civil Society

The first function is the protection of lives, freedom and property against violent and excessive interventions by state authorities. This function also includes a value aspect because it presupposes a system with property rights and basic civil rights that can be found in modern constitutions like the German *Grundgesetz*[12]. In this example the constiution guarantees these rights, which are essential for economic activity and social life, but if these rights are violated from the system itself, then civil society can intervene. One way of intervention is to encourage citizen engagement. The other possible way to support the rights of citizen is through monitoring of state activities, which is a second function of civil society. Hence, civil society agents monitor the the activities of state powers and government in many fields, such as human rights, public spending and corruption. But they are also active in promoting transparency and accountability, as well as creating norms that shape market and state activity. Some famous international organisations are Freedom House, Transparency International, Human Rights Watch (HRW), Amnesty International (AI), or Wikileaks.

They publish reports and indexes to raise awareness of civic and human rights abuses around the world. But the demands for transparency and accountability do not always come from global players. Kilonzo (2013) shows for the case of Tanzania how small civil society groups can put pressure on local authorities and the state to ensure that tax revenue is spent wisely. Especially after her organisation managed to persuade the government to issue a simplified version of the national budget, the public is recognising the potential of the Tanzanian gas sector in the country's rapid economic growth. Despite the efforts, the budget and tax mismanagement is still normality, in particular in resource-rich parts of the country. Nevertheless, by civic engagement, citizens can help to fight poverty, promote transparency

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12 The *Grundgesetz* regulates the basic civil rights in its first 19 articles, among these are human rights (articles 1 and 3), liberties (articles 2, 4, 5, 8-13, and 18) and property rights (articles 14 and 15) (Bundestag, 2014).

and reinforce civil rights. This example also shows that the functions or roles of civil society are often linked to each other, thus the third function is advocacy and public communication. Here, civil society activists articulate interests especially of marginalized groups and voiceless living things, for example woman, homosexuals, ethnic minorities, animals, or plants. But they are also raising public awareness of societal issues and challenges, for instance conflict, poverty, inequality, pollution, or water supply.

Again, here are on the one hand famous global organisations active, such as the UN organisations, HRW, AI, PETA, and Greenpeace, and on the other hand regional initiatives and small CSOs. Thus, Portney and Berry (2013) look at the role of local environmental advocacy groups in fifty US cities in the relationship between city income and effort toward environmental protection. They found, while controlling for income growth, that cities where environmental groups are included in policy processes are more likely to be committed to the idea of environmental sustainability as a policy goal. In addition, this is also true in cities where businesses and business groups are highly important players in the policy-making process, so they don't see them as bad for the local economies.

Another example comes from Krause, (2012) who argues that both Islamic and secular feminist woman's organisations in Egypt participate in a wide range of civil society activities in the Middle East. For her study, she visited ten woman's private voluntary organisations (PVOs) in Egypt, which included half secular and half Islamic groups, among them are organisations such as CEWLA, ADEW and The Alliance For Arab Woman. But the aims of the PVOs are very similar, hence they range between the solving of challenges of everyday life and the changing of laws and policies concerning woman. The main targets that unite religious and secular PVOs are the fight against poverty and illiteracy, followed by efforts against marginalizing traditions, patriarchy, or laws. Women from these PVOs do help the poor, care for orphans, and educate and train woman in their civil rights. Furthermore, Krause (2012) found democratic principles in approximately half of the organisations, as well as democratic practise in several ways, independent from the religious or secular orientation. Her interviews reveal that the overlapping of the PVO's targets are based in Islamic traditions which embody democratic values and helping of the poor.She also argues that it's easier to expand networks through the Islamic discourse. In general, the important networking process happens through extended families, because trust is very important in the PVO activities. In recent times, the participants use the social media that make communication and networking much easier, but even before this hype and before the protests in Egypt 2011 these women pushed for freedoms and democratic rights. And with their work, they encompass tolerance, cooperation, trust, and reciprocity.

A third example for the advocacy role of civil society comes from Paffenholz and Spurk (2006) who focus on civil society's role in peacebuilding. They show with case studies from several countries with armed conflicts that civil society can make important contributions to peacebuilding. Their results show a direct correlation between civil society involvement in peace negotiations and the sustainability of the agreement, more precise the greater the involvement of civil society the more likely the peace agreement will be sustained. This works especially through the advocacy function that makes the voices of civil society heard and brings important issues to the peacebuilding agenda, for example in Mozambique, where churches organized a demobilization campaign after the official UN demobilization process, or the peace campaigns in Northern Ireland during the peace process, or in the Philippines and in Colombia, where civil society activists negotiated zones of peace where no arms are allowed. But there is is also influence from outside the countries by foreign funded NGOs, or by peace education from foreign or international organisations, for instance in the Somali peace negotiations, in which more than sixty percent of participants had absolved trainings from the Swedish Life and Peace Institute (LPI). The authors also highlight the international efforts in monitoring of human rights and the international advocacy for specific conflict issues, like for example land mines, war diamonds, and child soldiers. These efforts mostly come from international organisations such as AI or HRW, but there are also important smaller actors, like the Stockholm International Peace Research Institute (SIPRI), which is financed in half by the Swedish government, that monitors worldwide weapon exports, including exports to conflict regions. Thus, the institute also promotes transparency.

The fourth function of civil society is socialization and community building, so it fulfills an important task for the cohesion of society. Within associational life, people can learn to develop tolerance, mutual trust and the ability to find compromise by democratic procedures. Thus, civil society in the form of associations and interest groups can help to strengthen bonds among citizens and building social capital. The level of trust is used by some authors as proxy for social capital, for instance by Knack and Keefer (1997) who are looking for the relationship between interpersonal trust, norms of civic cooperation, and economic performance, and some other links through which these dimensions of social capital may have economic effects. They use indicators of trust and civic norms from the World Values Surveys for a sample of 29 market economies, and they found evidence that trust and civic cooperation have significant impacts on aggregate economic activity, for example through lowering of transaction costs. But they also found that membership in groups are unrelated to trust and civic norms, while controlling for education and income, and to economic performance. Furthermore, the relationship of trust to growth is especially large in poorer

countries, because of their less developed financial sectors, insecure property rights, and unreliable enforceability of contracts.

These findings are supported by Skidmore (2001) who sees a correlation between the high level of social capital and the levels of economic performance and social welfare, because trust reduces transaction costs, social networks reduce risks and help spreading information, and social capital can open the doors to exclusive local knowledge. In his article, he compares the cases of Russia and Poland, and he argues that the different economic development after the end of Cold War can partly be explained by the role of civil society activity. On the one hand the Soviet Union with communist rule that repressed civil society activities and tried to provide everything that was needed for society. Thereafter, modern Russia started with a weak civil society and really fast uncivil forces dominated civil life. And on the other hand Poland that managed to develop strong grassroot and labor movements, as well as religious activities, despite the repression and influence from the Soviet Union. This framework gave Poland advantages in the market reforms which were supported by these civil society actors, because without trust, reciprocity and sociability markets cannot work effectively. Here, associations play an important role, especially in their function of creating social capital and networks. This arguments follows the thoughts of Putnam (1995) which were discussed in 2.1.2. Edwards (2014, pp. 89-113) gives an example for the importance of strength, spread, and connectivity of social networks. Therefore, membership in local associations in Indonesia had a bigger impact on household welfare than education, and this impact was even stronger when the membership was socially heterogeneous and overlapped with memberships in other groups. Similar results are reported from Krause's (2012) study in Egypt, as seen before. She also highlighted the importance of trust and networking in the woman's organisations.

However, the fifth function of civil society is the intermediation and facilitation between citizens and state, or more precise the strengthening of the relationship between citizens and the state. Here, civil society actors try to establish diverse relations to the state, such as communication, negotiation, and control. In democratic countries this function should be exercised by the elected political parties. The roots of most modern political parties in Western Europe lie in social movements, for example in labor movements or in environmental groups. The latter achieved to become important political forces in a short period of time. From the beginning in the early 1970s, over the first seats in national parliaments and in the European Parliament in the 1980s, to the establishment in Western European party systems during the 1990s, the Green movements wrote a success story (Müller-Rommel, 1994). Most Green parties have similar backgrounds in social and

environmental groups at the local level, because their aims have largely been neglected by the established parties, for example air and water pollution, noise, harmful substances in foodstuffs and the preservation of scarce resources. However, they not just care about issues related to environmental destruction and nuclear power plants, but they also fight for equal rights, especially for minorities), and they promote citizen participation as well as solidarity with developing countries, and they demand for disarmament, and democratic and civil rights.

Furthermore, their organisational structures differs from traditional parties, hence they are designed to give the grassroots a maximum chance of interest articulation, and thus an impact on policy formation . Overall, these Green movement serve as an adequate example to show how civil society activities can shape policies and mediate between citizen's demands and state interests. We have seen a similar impact of environmental groups in the study of Portney and Berry (2013), in which local environmental advocacy groups affected local policies and mediated between citizen's interests and the interests of local authorities and companies. Another example from the city-level of the United States comes from Baltimore. Here, unrest began in April 2015 when Freddie Gray died in police custody which threw a spotlight on the poverty and isolation of the African-American community (Rosenthal et al., 2015). This was one out of many incidents in recent years where human rights of minorities were violated by police officers or state authorities (HRW, 2014). Despite the riots that broke out in Baltimore and other American cities, some people engaged in peaceful protests and tried to mediate between protesters and police forces. Among these peaceful protesters were especially members of the African-American churches and their pastors. They see their responsibility in the promotion of peace and in the search for social justice, which they derive from their Christian believe and the tradition of civil rights leaders of the 1950s and 1960s. The pastors warn of hasty judgments and call for patience in the case of the investigations of the incidents, thus they still believe in the judicial system. In addition, they preach peace and try to foster dialogue, for example through pray groups that include police officers and community members (Pitts, 2015). Overall, this example shows how religious groups can help to strenghten intermediation between citizens and state officials. A similar mechanism was also reported by Krause (201 who showed that woman activists have interacted with authorities through networks and memberships of several organisations, as well as through the religious discourse.

The sixth function of civil society – and from an economic perspective probably the most important – is service delivery, or in other word the direct provision of services to the citizens, such as self-help groups, shelter, health, education, food, security, development aid, and

disaster management. Furthermore, CSOs have expert knowledge and experience that can help to shape policies and to develop strategies to solve societal problems. These services generate a share of the CSO's income which partly guarantees independence from states and corporations. With the non-profit orientation of many CSOs, they can also act as incubator or help to develop solutions that may require a long gestation or payback period (Paffenholz and Spurk, 2006; Schwab, 2013). As noted by Salamon et al. (2004; sample of 36 countries), the civil society sector is a 1.3 trillion dollar industry with 48.4 million FTE workers (Salamon, 2014; sample of 40 countries) with slightly more paid stuff than volunteers. The following table shows that two-thirds of the civil society's workforce was active in service fields in the covering period, including the most important activities in education and social services.

Table 11: Distribution of CSO Workforce by Field and Type of Activity, 33 Countries

Field	Type of activity	Share of workforce
Service fields (64%)	Education	23%
	Social services	20%
	Health	14%
	Development/Housing	7%
Expressive fields (32%)	Culture/Recreation	19%
	Professional/Unions	7%
	Civic/Advocacy	4%
	Environment	2%

(Source: Salamon et al., 2004, p. 25)

But these results only cover 33 countries and the study is more focused on the non-profit sector. Nevertheless, it gives an interesting overview over a part of civil society activity. Overall, we saw how civil society can improve good governance and help to strengthen democratic values in democracies and autocracies alike. Additionally, the examples showed that small and big organisations often work together. This is also confirmed by Salamon et al. (2004, p. 30) who show for their sample of 34 countries that 53 percent of CSO revenue comes from fees, followed by the government or public sector (34%), and the private sector or philanthropy (12%).

2.2.2.2 Cross-Country Results and Critique

However, the previous results come mainly from case studies or small samples of countries which is also observed by Pevcin (2012, pp. 188, 202) who identifies "a clear lack of cross-country oriented studies" and "a lack of internationally comparable data"[13]. He uses the CSI and GCSI and found a positive statistically significant relationship between civil society sector development and wealth of society, as well as democracy, and governmental spending on CSOs. In addition, he shows a statistically negative relationship between the civil society sector and poverty. The existing comparisons of regions or countries often focus on economic justice and development, democratic rights and values (Civicus, 2014; CED, 2013), or CSO sustainability and legal frameworks (USAID, 2012a; ICNL, 2013, 2015). When we look at the different civil society indexes (Table 12) that consist of different country samples from various data collection periods, it's nearly impossible to make general statements.

Table 12: Comparison of Top Five Scoring Countries in Different Indexes

Index	CSI (Mean)	CSI (Mean)[14]	GCSI (Total)	CSOSI (Mean)	EEI
Data collection period	2003-2006 (Phase 1)	2008-2011 (Phase 2)	1995-2000	2013	2005-2011
	United Kingdom[15] (2.28)	Zambia (59.12)	Netherlands (74)	Turkmenistan (6.4)	New Zealand (0.87)
	Germany (2.15)	Nicaragua (56.84)	Norway (65)	Uzbekistan (5.8)	Canada (0.85)
	Italy (2.08)	Japan (56.26)	United States (61)	Angola (5.8)	Australia (0.84)
	Netherlands (2.08)	Uruguay (56.26)	Sweden (60)	Belarus (5.7)	Denmark (0.81)
	Czech Republic (1.96)	Mexico (56.2)	United Kingdom (58)	Ethiopia (5.7)	Norway (0.80)

(Sources: Civicus, 2015; Salamon et al., 2004; USAID, 2015)

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13 The biggest selections of country reports about the situation of civil societies come from three organisations and institutions, namely Civicus, USAID, and the JHU's Center for Civil Society Studies. Firstly, State of Civil Society Reports by Civicus (2011, 2014) and individual country reports from the CSI project (Table 2-4 in Appendix A provides the data) for 73 countries and regions with at least one report since 2001. Secondly, data from the JHU's Center for Civil Society Studies (Salamon et al., 2004; Salamon, 2014) for approximately 40 countries (Table 8 in Appendix A provides the GCSI for some of these countries) with focus on NPOs. Thirdly, the Civil Society Organization Sustainability Reports by USAID (2012a, 2012b, 2012c, 2013, 2014) for 56 – mostly developing and transitional – countries (Table 10 in Appendix A provides the latest available CSOSI). Furthermore, there are several other overviews, for example comparisons of different regions (Glasius et al., 2004), or collections of case studies from different regions such as the report of the European Union and the Center for Economic Development that includes nine countries from Central and Eastern Europe (CED, 2013). Moreover, the MENA region came into focus in recent years, so we can find studies and reports on individual countries such as Algeria (FFF, 2012), Egypt (Krause, 2012; Yerkes, 2012), Iran (Aarts and Cavatorta, 2013; Razzaghi, 2010), Syria (Aarts and Cavatorta, 2013; Kawakibi, 2013), and Tunisia (FFF, 2013).

14 Guinea, Rwanda, Senegal, and Tanzania excluded, because the reports applied the methodology of Phase 1.

15 This is the average of Scotland, Wales, and Northern Ireland.

The indexes measure slightly different aspects of civil society and use different methodologies[16]. Nevertheless, European and North American countries are performing very good in the CSI (Phase 1), GCSI, and EEI. In contrary, we find in the top five of the CSI (Phase 2) and of the EEI only countries from South America, SSA, and Asia, except for Belarus. This observation is probably related to the composition of the country samples which are focused on developing and transitional countries.

Despite the evidence for the positive effects of civil society that bring benefit to the social, political, and economic life, there is also some critique from different directions. First, from the civil society's perspective that fears the loss of independence, because of the CSO's income from corporations or governments, as well as the loss of binding to the base and grassroots, because of professionalization and entanglements with state authorities. A similar problem is called "NGOization" which describes a commercialization of of social protest, as well as a crowding out local efforts and actors (Paffenholz and Spurk, 2006, p. 25). Thus, CSOs become part of the established system that is contaminated with corruption and other rent-seeking activities. Clark (2011) describes two other challenges for civil society, namely on the one hand the drop in donations especially during the financial crisis and on the other hand the restrictions on activism that followed in the aftermath of 9/11. But to improve some of these aspects is an essential part of civil society activity. Some authors also criticise the concept of civil society to have a Western bias, thus this ethnocentrism does make in complicated to compare civil society in different countries or regions in the world (Anheier et al., 2011). Another problem is, when civil society fails, or has a very little impact, or cannot prove its impact (Fioramonti and Thümler, 2013; Lutsevych, 2013; Skidmore, 2001). In this way, Fioramonti and Thümler (2013) criticize the small size of civil society activists that are mainly involved in monitoring the financial sector and raise awareness of the "reckless behaviour" commercial banks and financial service providers, which was in particular uncovered after the latest global financial crisis. They argue that the financial sector is largely unchecked, both by government and civil society, and in the USA only about 0.1 percent of larger NGOs focus public finances, taxation, and policies of financial markets.

However, there is also critique from the economic perspective, because demands of civil society activists often collide with rent-seeking agents, such as business man and politicians, for example demands that harm business models. These demands include labor rights, for instance minimum wage or decent working conditions, and environmental protection, for example through the use of renewable energies or the ethical treatment of animals. In some

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16 More details in 2.1.2 and in the Tables 2-4 and 6-10 in Appendix A.

cases protesters and civil society activists even attack entities that they see as the representatives of capitalism, for instance the banking system or big profit-oriented corporations. Furthermore, transparency might harm trade deals and reduce exports, for example in the case of weapon exports that are monitored by organisations such as SIPRI which publish reports to raise awareness and uncover the sellers and buyers. The political or state perspective on civil society is also characterized by scepticism, because protests and other activities might affect political stability (Skidmore, 2001), or might damage stores, buildings, streets, cars, and public infrastructure, and hence reduce trade, security and the general trust in the political system. However, governments not just fear its own population, but the influence of foreign actors, for example through funding of NGOs (Lutsevych, 2013). This fear can be found in democracies and autocracies alike which both search for legal ways to restrict civil society activities and foreign NGO-funding, and for as much control and surveillance as possible. Some countries limit basic civil rights to keep the voices of civil society silent (Civicus, 2015; Clark, 2011; ICNL, 2013, 2015; Long, 2015).

2.2.3 Natural Resources: Blessing or Curse?

The literature on natural resources can roughly be split into two paths. On the one hand authors who support the resource curse thesis (Sachs and Warner, 1995b, 2001; Mehlum et al., 2006; Mobarak and Karshenasan, 2012; Papyrakis and Gerlagh, 2004), and on the other hand authors who bring evidence against it (Alexeev and Conrad, 2011; Brunnschweiler, 2008; Brunnschweiler and Bulte, 2008; Pendergast et al., 2008; Sala-i-Martin and Subramanian, 2003; Wright and Czelusta, 2002). But there are also authors that introduce so many restrictions and highlight exclusive circumstances that it is hard to call it a curse (Pendergast et al. 2011; Ross, 2012). Moreover, inside the pro-curse path we have varying results concerning the impact of different factors and transmission channels. In the first important empirical study, Sachs and Warner (1995b) show that countries with a high ratio of natural resource exports to GDP tend to have low growth rates. They show for their sample of 97 developing countries in the period from 1971 to 1989 a statistically significant relationship between natural resource intensity and growth. It stays robust after controlling for several variables such as initial per capita income, trade policy, government efficiency, and investment rates. In a later paper, Sachs and Warner (2001) admit that the evidence for the curse of natural resources is not bulletproof. But they add the results that resource-rich countries grow more slowly and tend to miss-out on export-led growth. Furthermore, they found lttle direct evidence that omitted geographical or climate variables explain the curse,

while controlling for previous growth rates and geography variables.

Similar results come from Papyrakis and Gerlagh (2004) who argue that natural-resource abundant economies tend to grow at a slower pace, and that the negative indirect effects of natural resources on growth – the transmission channels – are shown to outweigh the positive direct effects. In addition, natural resources increase wealth in the short term, but the economy is more likely to hurt in the long term. They study the effect of natural resources on several transmission channels, and thereafter the indirect effect on economic growth. For their samples of 39 and 47 countries with different averaged periods between the 1970s and 1990s they show that natural resources contribute positively to economic growth, if the negative indirect effects are excluded. But when the negative indirect effects are included, these impacts outweigh the direct positive effect of natural resources to growth. More precisely, their results show a highly significant and negative relationship between economic growth and natural resources. Among the investigated transmission channels investment seems to be the most important, followed by openness and terms of trade, schooling, and corruption. Although natural resources tend to increase the level of corruption, the indirect effect on growth is relatively small compared to the other transmission channels. Overall, Papyrakis and Gerlagh (2004) conclude that natural resource abundance impedes economic development rather than stimulates it.

On the contrary, Wright and Czelusta (2002) doubt the sole negative role of natural resources and provide examples of successful resource-based development. With a historical look at the USA, they demonstrate how a country with different natural resources, an appropriate legal environment, and investments in infrastructure and education, can benefit from natural resource abundance. Furthermore, the authors show how countries such as Australia, Norway, Chile, Peru, and Canada followed this example, whereby Wright and Czelusta (2002) especially highlight the role of exploration, technological progress, and investments in appropriate knowledge, for example about mining or efficient resource extraction. In their case study of Nigeria, Sala-i-Martin and Subramanian (2003) find that natural resources are not significantly related to economic growth, while controlling for institutional quality. They also show that the types of resources are important, for example fuel and mineral resources negatively impact institutions and thus economic performance. Overall, they see oil-related corruption and bad institutions to be responsible for the poor long run economic performance.

An empirical cross-country study that gives evidence for a positive direct effect of natural resources on real GDP growth comes from Brunnschweiler (2008), covering the period 1970-2000 for more than 80 countries. She contradicts with most previous findings of

detrimental growth effects of natural resource wealth and criticizes Sachs and Warner's (1995b) indicator for natural resource abundance which measured rather dependence on natural resource exports than natural resource abundance. This is also criticized by Ross (2012). Thus, Brunnschweiler (2008) uses alternative indicators measuring per capita mineral and total natural resource wealth, and considering the role of institutional quality. In her OLS and 2SLS estimations, which consider the endogeneity of institutions, she finds no evidence of a negative growth effect of natural resource abundance that is robust to the inclusion of a wide range of additional control variables. Furthermore, the results show that the positive effects of resources are especially strong for subsoil wealth, and that there is no evidence of negative indirect effects of natural resources through the institutional channel. Thus, she argues against the hypothesis of an indirect natural resource curse, for instance through rent-seeking behaviour. These findings are also supported by another publication of Brunnschweiler (and Bulte, 2008), which also refuses the rent-seeking and Dutch disease theses. Their argument for the latter is that if there is only one important sector that drives economic growth, namely the resource sector, no other sector can be crowded out. They receive similar results, so resource dependence does not affect growth, and resource abundance positively affects growth and institutional quality. In addition, resource abundance, constitutions, and institutions determine resource dependence.

Again, they argue that bad institutions are associated with high scores on a resource abundance indicator. Additional, they find that countries with certain institutional designs may fail to industrialize, and hence these countries will become dependent on primary sector extraction. In contrast to the resource curse literature, Brunnschweiler and Bulte (2008) find resource dependence to be insignificant in growth regressions, with no effect on institutional quality. But resource abundance is found to be significantly associated with both growth and institutional quality, meaning that greater abundance leads to better institutions and more rapid growth. In the end, they conclude that the resource curse literature can be used as a reminder of the important direct and indirect impacts of institutions on economic performance, and that resources can be a blessing for institutional as well as economic development. In some aspects similar is Pendergast et al. (2008, 2011) who argue that resource abundance does not directly impact economic development. With several estimations for the period 1998-2004 including 88 countries, they show that the coefficient on natural resource dependence is insignificant, using real GDP per capita and the Human Development Index (HDI) as dependent variables. They use the average share of natural resource exports in GDP to measure resource dependence, while controlling for initial income, investment, openness, and rule of law. Their result opposes Sachs and Warner

(1995b).

Furthermore, Pendergast et al. (2008) found that rent-seeking has an effect on corruption, and through this channel also an indirect effect on well-being, because natural resources have the greatest rents, and thus potential for exploitation through rent-seeking agents. This is reflected in the estimation in which control of corruption was positively associated with the HDI. The direct effects of natural resources differ depending on the individual types of natural resources, for instance forest resources, mineral resources, ores, and oil. Here, the authors show positive coefficients for all types of resources except for oil, thus fuel resources can be considered a curse. This is also supported by Ross (2012), who calls it an oil curse, and Sala-i-Martin and Subramanian (2003). But institutional quality can offset the impact of the fuel resource curse, because the results show that regulatory quality is significant and positively associated with control over corruption. In their later work, Pendergast et al. (2011) repeat their analysis and reaffirm their explanation that fuel resource rents will attract rent-seekers and increase corruption. Thus, the conclude that reducing corruption could be a key to overcome the resource curse. Nevertheless, they admit that the links between natural resource abundance and overall standards of living are complicated.

While discussing whether natural resources are a blessing or a curse, we saw that the relationship between natural resource abundance (or dependence)and economic growth is non-monotonic. This is confirmed by many authors (Bulte et al., 2005, Boschini et al., 2007; Mehlum et al., 2006; Pendergast et al., 2011). Overall, we have already uncovered some important aspects of the resource curse, namely the role of corruption and the type of resources, as well as rent-seeking and the quality of institutions . The latter refers to an important transmission channel of the curse, namely the deterioration of institutions. A vast amount of literature with empirical evidence can be found on this topic[17] with different country samples, time periods, and estimation techniques. First, some authors found that the type of resources are important, while showing that point resources, especially oil, are related to less effective institutions (Boschini et al., 2007; Bulte et al., 2005; Isham et al., 2005; Mobarak and Karshenasan, 2012; Sala-i-Martin and Subramanian, 2003) or to deterioration of political rights (Alexeev and Conrad, 2011; Arezki and Brückner, 2009). Therefore, they argue that elites try to hold control of point resources, so these elites do not like rights to express political demands and monitoring institutions, because they could destabilize the regime or decrease the resource revenues due to redistribution. These elites also have no interest in industrialization, which would dilute their power base. Overall this impedes the economic performance.

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17 A more general view of the institution's effects on economic growth can be found in 2.2.1.5.

Second, another result is that the quality of institutions decides over rent-seeking and corruption (Arezki and Brückner, 2009; Bhattacharyya and Hodler, 2010; Boschini et al., 2007), and capital intensive resources, for instance oil, are a major determinant of corruption (Leite and Weidmann, 1999), especially in countries with a high share of state participation in oil production (Arezki and Brückner, 2009). As the quality of institutions is related to the level of corruption, the question is, if the latter is bad for economic growth. The general accepted view is that corruption harms the economy through the negative impact on investments, governance, and the business environment (Chene, 2014; Leite and Weidmann, 1999). But there is also evidence for the opposite view. Mironov (2005) shows that corruption which is uncorrelated with other governance characteristics is positively related to GDP growth in countries with poor institutions. Thus, he gives evidence for the theory that corruption helps in overcoming inefficient barriers. Furthermore, countries with unproductive institutions tend to score lower on various development indicators such as HDI or per capita GDP (Bulte et al., 2005). Nevertheless, we see the linkage of two transmission channels, namely deterioration of institutions and rent-seeking.

The harmful effect of rent-seeking is studied by Al-Ubaydli et al. (2014) who use a laboratory experiment in the virtual world Second Life, based on Torvik's (2002) model. He argues that more natural resources are likely to encourage rent-seeking, and this results in fewer entrepreneur activities and fewer manufacturing firms, and thus weaker economic performance. Their results show that rent-seeking increases in response to a resource boom under no communication. Furthermore, more communication is related to less rent-seeking and more growth. In the case of no communication they found no growth, but a modest risk that income might decrease. Overall, they follow the argument of Robinson et al. (2006) that good institutions can help to reap the full benefits of resource booms. Another evidence for Torvik's (2002) theory comes from Farzanegan (2014) who sheds light on the role of entrepreneurship. In his panel data analysis of 65 countries for the period from 2004 to 2011, he shows a statistically significant negative relationship between oil rents dependency and an entrepreneurship indicator, while controlling for country and time-fixed effects, as well as other major drivers of entrepreneurship. In addition, government effectiveness has a statistically significant moderating effect in the relation of oil rents dependency and entrepreneurship.

Third, this moderating role of institutions is highlighted by many studies, who found evidence for this effect of institutions on natural resource abundance, especially in the context of corruption (Bhattacharyya and Hodler, 2010; Leite and Weidmann, 1999), rent-seeking, and resource booms (Al-Ubaydli et al., 2014; Robinson et al., 2006). They show that the quality of

institutions can reverse the resource curse, meaning that the effect of natural resources on economic development improves with institutional quality (Boschini et al., 2007, 2012; Limi, 2007; Mehlum et al., 2006; Mobarak and Karshenasan, 2012). Hence, Limi (2007) sums up that good governance tends to link natural resources with high economic growth, which includes strong public voice with accountability, high government effectiveness, good regulation, and powerful anti-corruption policies. Another transmission channel that connects natural resource abundance with economic performance is civil conflict. Here, the literature is forked into two paths. One the one hand authors who bring evidence that the point resources are strong determinants of the duration and the probability of armed conflict (Collier and Hoeffler, 1998, 2004; Farzanegan et al., 2013; Ross, 2012). On the other hand there are authors that find evidence for a positive effect on regime durability and stability with lower likelihoods of civil war and anti-state protest (Bjorvatn and Farzanegan, 2014; Fjelde, 2009; Morrison, 2009; Smith, 2004). In addition, Boschini et al. (2007) and Arezki and Brückner (2009) find that point resources do not have a significant effect on the risk of civil conflict, thus they are no direct threat to state stability.

The first camp sees natural resources as a main driver for conflict, because the high rents may attract rent-seekers or interest groups that try to grab for their share. Farzanegan et al. (2013) investigate the impact of fiscal and political decentralization, and they find that these policies may mitigate the destructive effect of the natural- resource rents on internal stability. The second camp argues that regimes with large resource revenues have the power to buy the opposition, and thus bring more stability. In this context, Fjelde (2009) found that higher levels of political corruption seem to weaken the harmful impact of oil on the risk of civil war. Moreover, Bjorvatn and Farzanegan (2014) show that natural resource rents can promote political stability, but only when the political power is sufficiently concentrated. This brings us to another transmission channel, namely the political factionalizm which was studied by Bjorvatn et al. (2012, 2013). Their results show that the more balanced the distribution of power among political factions, the less positive is the contribution of oil revenues to economic growth.

Another popular explanation for the resource curse is the Dutch disease thesis, which is mainly investigated by case studies. Farzanegan (2013) analyses the unfolding of Dutch disease in Iran. He shows a statistically significant positive correlation between oil prices and a real effective exchange rate for the post-war period, after 1989. The increase of the latter can be a hint for the Dutch disease phenomenon. Furthermore, he shows significant positive correlation between oil prices and real estate services in Iran in the period 1959-2010, as well as significant negative correlation of the agriculture sector and oil prices in the same

period. As the Dutch disease is considered to be a cause for de-industrialisation, he argues that it leads to higher unemployment. In combination with an increasing working age population this might increase political instability, and thus lead to a demographic curse. He sees the negative interaction between oil and working age population in Iran as implication for this process. Bjorvatn and Farzanegan (2013) investigate the role of demographic transition in resource-rich countries and find a negative interaction effect between resource wealth and demographic transition on national income in their estimation for more than 120 countries in the period 1982 to 2006 . They argue that this negative effect in countries with resource abundance is due to Dutch disease, which crowds out for example the manufacturing sector, and thus the sector that could offer jobs for the new entries in working age population.

However, the next transmission channel is the neglect of human capital. Gylfason (2001) argues that education can bring benefits for economic development in many ways[18]. He finds that several indicators for education are inversely related to the share of natural capital in national wealth across countries. His argument is that natural capital crowds out human capital and thus harming economic development (Gylfason and Zoega, 2006). The lower investment in human capital as a result of high resource rents is also shown by Papyrakis and Gerlagh (2004). Moreover, Alexeev and Conrad (2011) show for transitional economies some evidence that natural resource wealth is associated with lower primary school enrolment. This is also supported by Farzanegan (2013) who shows for his global sample of the last 50 years a negative correlation between oil rents and public spending on education, both measured in percent of GDP. This is also true for total natural resource rents, but the correlation is weaker. Furthermore, he shows a strong negative correlation between oil rents and different measures of schooling and literacy. Additionally, Bravo-Ortega and De Gregorio (2007) found that under certain circumstances a high level of human capital may offset the negative effects of natural resources on economic growth.

Moreover, Gylfason and Zoega (2002) argue that income inequality is bad for education, and while education, or human capital, is important for economic growth, inequality will hurt economic growth. In their analysis they show how natural resources affect growth directly, and through the inequality-education channel. But high income inequality is not automatically related to natural resource abundance, as studies suggest which find that natural resources raise income inequality in ethnically polarized societies (Farzanegan and Habibpour, 2014; Fum and Hodler 2010). Parcero and Papyrakis (2014) even show that resource-abundant countries suffer less from income inequality. But they highlight the observation that

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18 More details about the relationship between human capital and economic growth in 2.2.1.4.

mineral-rich nations tend to under-report data on income inequality. In contrast to that, Ross (2003) shows a state's dependence on mineral exports in 1970 is robustly associated with worsened conditions for the poor in the late 1990s, using different direct and indirect measures of poverty. Additionally, Goderis and Malone (2009) find empirical evidence in support of their model in which income inequality will fall in the short run immediately after a boom, and will then increase steadily over time as the economy grows.

As seen in the conflict transmission channel, there can be a indirect influence of natural resources on investment through the risk of instability that might distract investors (Collier and Hoeffler, 1998, 2004; Farzanegan et al., 2013; Ross, 2012). Thus, reduction in saving and investment is another transmission channel of the resource curse. The atmosphere for investments and business can also be harmed through the weak quality of institutions which is caused by natural resource abundance (Arezki and Brückner, 2009; Bhattacharyya and Hodler, 2010; Chene, 2014; Farzanegan, 2013; Boschini et al., 2007). Furthermore, Atkinson and Hamilton (2003) show that natural resource abundance may influence economic development negatively, because weak institutions might allow resource profits to be spent in government consumption rather than investment. With their empirical results Gylfason and Zoega (2006) show that heavy dependence on natural resources may hurt saving and investment indirectly by slowing down the development of the financial system.

3. Methodology

The estimations in this work are carried out with the OLS method using unbalanced panel data. Due to the availability of data, especially on institutions and civil society, the number of countries and the periods of time may vary in different specifications, ranging approximately from the mid-1990s to 2013 with almost 50 countries.

3.1 Hypothesis and General Model

In the previous sections of this work we saw that there can be negative effects on economic growth in resource-abundant or resource-dependent countries, but these effects are more likely to be indirect through different transmission channels. Furthermore, there are many authors who argue that institutions can serve as moderator and thus may dampen or reverse the negative effects of natural resources (Al-Ubaydli et al., 2014; Bhattacharyya and Hodler, 2010; Boschini et al., 2007, 2012; Leite and Weidmann, 1999; Limi, 2007; Mehlum et al., 2006; Robinson et al., 2006,, 2012; Mobarak and Karshenasan, 2012). Out of this result comes the idea that civil society might have a similar positive effect in the relationship between natural resources and economic performance. As we have seen, civil society is not just an essential part of the social sphere, but it is also part of the economic and political sphere. Overall, civil society can fulfil several functions in society such as monitoring, promoting transparency and accountability, advocacy, mediation between state and citizens, and service delivery (Anheier, 2004; Paffenholz and Spurk, 2006; Salamon et al., 2004; Schwab, 2013). Thus, the hypothesis of this work is:

Hypothesis: The final effects of natural resource rents on economic growth depend on the degree of civil society development.

The general model for the analysis is derived from growth and resource curse literature (Kormendi and Meguire,1985; Levine and Renelt, 1992; Lumbila, 2005; Papyrakis and Gerlagh, 2004; Sachs and Warner, 1995b; Sala-i-Martin, 1997; Siddiqui and Ahmed 2009) which consists of the dependent variable economic performance, and mainly of three components on the side of the independent variables, so the equation has the form:

$$Y = \beta_i * I + \beta_m * M + \beta_z * Z + u \tag{8}$$

In this model, the dependent variable (*Y*) describes the economic performance and is in general measured either through per capita GDP growth or the logarithm of GDP per capita. The *I* is a set of variables that is always included in the estimations (e.g. natural resource rents in percent of GDP), and *M* is the variable of interest, which is in this case civil society measured by the CSOSI. Finally, the variable Z is a set of control variables that has been identified as important explanatory variables in former studies such as trade openness, investments, human capital, and many more. These variables are included to reduce the omitted variable bias. Finally, the *u* is the error term.

3.2 Data

The independent variable that is used throughout the estimations is the natural logarithm of per capita GDP (*LNPCGDP*), in constant 2005 US dollars. It is taken from World Bank and is available for the period from 1960 to 2013 for more than 200 countries. The data set is tested for unit roots with the Fisher-type tests on the basis of augmented Dickey-Fuller (ADF) tests and Phillips-Perron tests, with and without trend term for different lags (Baltagi, 2011, pp. 379-384; Woolridge, 2002a, pp. 578-584). Despite the results that the H_0 'All panels contain unit roots' cannot be rejected, and thus there is evidence for at least one non-stationary panel, I will use this data, because it it widely used in literature (Barro, 2003, 2013; Bjorvatn and Farzanegan, 2013; and many more). Maybe the tests are not adequate for this case.

The first independent variable is *LNNR* which represents the natural logarithm of total natural resource rents as percent of GDP, also taken from World Bank's World Development Indicators (WDI). The values are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents. Data are available for the period from 1970 to 2013 for more than 200 countries. Different tests give no evidence for a unit root in one of the panels, and hence the data set seems to be stationary. As resource rents as percent of GDP is used to represent resource dependency, we will see the estimations also with natural resource rents per capita (*LNRPC*), also in the log form, which has been suggested by several authors to measure resource abundance (Bhattacharyya and Hodler, 2010; Bjorvatn and Farzanegan, 2013; Brunnschweiler, 2008; Ross, 2012). This variable will be calculated with World Bank data, thus it will cover a similar period of time and countries than the other variable. Again, tests give no evidence for unit roots. Overall, there is no consensus about the effect of natural resources on the economic performance, as we have seen in 2.2.3. But I will assume here that there is a positive direct effect, because the negative effects are more

likely to happen through the channels. In addition, the next variable will reduce the length of the time period which will make it impossible to see the long-term effects of natural resources on economic performance.

Civil society will be measured by the CSO Sustainability Index (*CSOSI*) which was presented in 2.1.2.3. It is published by USAID and is available from 1997 to 2013, including 56 countries. the index covers different dimensions of civil society such as legal environment, organizational capacity, financial viability, advocacy, service provision, infrastructure, and public image. The variable in the estimations is the mean of all seven dimensions. After excluding the countries with data for only two years the unit root tests give evidence that the data set is stationary. Unfortunately the data only covers countries from Europe and Central Asia (ECA), and Sub-Saharan Africa (SSA), except for Afghanistan and Pakistan[19]. The other very ambitious indexes that are presented in this work are not available as panel data, but as we see in Table 13, those are also more focused on ECA, except for the EEI.

Table 13: Regional Distribution of Available Civil Society Data, Number of Countries

	CSI, Pilot	CSI, Phase 1	CSI, Phase 2	GCSI	CSOSI	EEI
EAP	2	8	3	4	0	10
ECA	6	23	14	17	29	47
LAC	1	8	5	5	0	18
MENA	0	2	2	1	0	5
NA	1	0	0	1	0	2
SAS	1	2	0	2	2	1
SSA	1	6	7	4	25	26

(Source: author's illustration)

Nevertheless, the expected effect of *CSOSI* on economic performance should be positive, because the former includes service provision which contributes to the GDP. But this is only true when the other components will not outweigh this expected positive effect.

Another main variable of interest is the role of institutions (*INST*) which will be measured by the World Governance Indicators from World Bank, covering more than 200 countries and territories since 1996. Overall, there are six indicators that measure political and economic institutions, namely voice and accountability, political stability and absence of

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19 In Table 10 of Appendix A is an overview of the included countries.

violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption (Kaufmann et al., 2010). These indicators range from around -2.5 to 2.5 with higher values corresponding to better governance. For the estimations I will calculate only one index out of the six dimensions, by adding 5 to all indicators and then calculating the mean, and then subtracting 5. Again, the unit root tests give evidence that the data set is stationary. The expected effect of the quality of institutions on per capita GDP is positive (Boschini et al., 2007; Song, 2013; or for rule of law: Barro, 2003, 2013; Brunnschweiler, 2008; Pendergast et al., 2008; Sala-i-Martin, 1997). But there are also opposing results (Bjorvatn and Farzanegan, 2013; Mehlum et al., 2006).

Now we look at the control variables, the *Z* in model (8). First, we will include in all specifications two variables that are related to human capital which is essential for economic performance, namely the total life expectancy at birth in years (*LIFE*) and the gross secondary school enrolment ratio (*SECO*). Both data are available from World Bank covering more than 200 countries and territories. The former for the period from 1960 to 2013, and the latter from 1970 to 2014, but with a lot of missing data. Within life expectancy is not just a health aspect, but it also depicts modernization. Thus, it reflects also aspects of technological progress. However, the variable *SECO* is the total enrolment in secondary education, regardless of age, expressed as a percentage of the population of official secondary education age. The Fisher-type unit root tests show varying results. For the variable *LIFE*, there is no evidence for a unit root, whereas for *SECO* there is evidence for a unit root, and thus the variable seems to be non-stationary. But the gap in the data set raises doubts concerning the results of the tests. Nevertheless, the variable *LIFE* is expected to be positive (Barro, 2003; Bjorvatn and Farzanegan, 2013; Sachs and Warner, 1997) and the variable *SECO* is also expected to be positive (Barro, 2003, 2013; Bjorvatn and Farzanegan, 2013; Blomström et al.,1992; Farzanegan, 2014; Levine and Renelt, 1992; Mehlum et al., 2006).

The next control variable is trade openness (*OPEN*) which is measured by World Bank's data set on trade in percent of GDP, which is the sum of exports and imports of goods and services. As most WDIs, it is available since 1960 for around 200 countries. Moreover, it is tested to be stationary. From literature, we expect *OPEN* to have a positive relation to GDP per capita (Barro, 2003, 2013; Bjorvatn and Farzanegan, 2013; Boschini et al., 2007; Lumbila, 2005; Mehlum et al., 2006; Papyrakis and Gerlagh, 2004).

Furthermore, two WDIs are included that show the involvement of the state or government in the economy, namely gross capital formation in percent of GDP (*CAPFO*), formerly known as GDI, and general government final consumption expenditure in percent of GDP (*GCONS*). Both are, like trade openness, long recognized important drivers of economic growth. The

former consists of outlays on additions to the fixed assets (land improvements, construction of infrastructure, and purchases of machinery and equipment) of the economy plus net changes in the level of inventories (stocks of goods). It is available from 1960 to 2013 for around 200 countries. After several tests we have no evidence for a unit root in one of the panels. The variable *GCONS* includes all government current expenditures for purchases of goods and services, including compensation of employees, and excluding government military expenditures. It is available for the same period of time, covering a similar number of countries, and shows no evidence for a unit root after the tests. Overall, the expected effect of capital formation on economic growth is positive (Barro, 2003; Bjorvatn and Farzanegan, 2013; Levine and Renelt , 1992; Mehlum et al., 2006; Papyrakis and Gerlagh, 2004; Pendergast et al., 2008; Sala-i-Martin, 1997), and the relationship between GCONS and per capita GDP is expected to be negative (Barro, 1991, 2013; Bjorvatn and Farzanegan, 2013; Farzanegan, 2014).

Another aspect of economic performance is the role of demography, because the people are the ones which trade among each other and work in the markets, thus they are an essential part of economy. As most data on population include strong trends, and hence are non-stationary, I will use the natural logarithm of working age population as percent of GDP, which is available from WDI under the name population ages 15-64 percent of total, covering more than 200 countries for the period from 1960 to 2013. Nevertheless, the tests for this variable (*LNWAP*) give evidence that at least one of the panels has a unit root, and thus the data set is rather non-stationary than vice versa. But some tests with included trend are significant on the 5% level which could be a hint for a deterministic trend. Again, I will ignore this result and focus on previous literature, while keeping this in mind for the interpretation. In general the negative relationship between population growth and per capita income is highlighted by many authors such as Mankiw (2003, pp. 203-204) and Arvanitidis et al. (2009). But in contrast to that, the working age population is expected to have a positive effect on per capita GDP (Bjorvatn and Farzanegan, 2013; Blomström et al., 1992; Bloom and Williamson, 1998; Song, 2013). But the relationship is not that simple, because sometimes the so-called demographic curse might occur, for example when the labour market is not capable of absorbing all the new workers.

Last but not least, a variable that captures the financial atmosphere will be included in the estimations, namely the inflation rate (*INFL*) measured by the annual growth rate of the GDP implicit deflator. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency, and shows the rate of price change in the economy as a whole. It is available from World Bank since 1961 for more than 200 countries. After applying several

unit root tests, there is evidence that the data set is stationary. According to literature, the inflation rate has a negative impact on economic performance (Barro, 2003, 2013; Bjorvatn and Farzanegan, 2013; Lumbila, 2005).

The following Table 14 shows a summary of all described variables. But the sample size is reduced on the basis of the availability of CSOSI data. A summary of the full sample can be found in Table 15 in Appendix A.

Table 14: Summary of Used Variables, Reduced Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
LNPCGDP	573	7.76808	1.187558	5.012124	9.95166
LNNR	557	1.134091	1.839392	-7.507272	4.49111
LNRPC	555	4.289157	1.890271	-4.669975	8.068637
CSOSI	576	4.061285	1.004985	1.6	6.6
INST	498	-.2827361	.7094579	-1.728157	1.084483
LIFE	574	68.57225	7.122811	44.50144	80.27805
SECO	403	84.85036	20.65346	19.98922	110.7636
OPEN	561	93.06126	31.66439	24.17033	199.675
CAPFO	558	24.6327	6.840179	8.868907	57.99046
GCONS	549	16.63252	4.832049	5.690266	31.57298
LNWAP	562	4.16427	.1050117	3.882626	4.284492
INFL	572	12.47829	42.80935	-20.62722	958.5273

We see that the number of observations will be further reduced in the samples, in particular because of the data on education (*SECO*).

3.3 Specifications

The specifications follow the approaches of Boschini et al. (2007), Brunnschweiler (2008) and Mehlum et al. (2006) who include an interaction term of natural resources and institutions in their model, to find evidence for the moderating effect of institutions in the relationship of natural resources and economic growth. Additionally, I will follow the

specifications of Bjorvatn and Farzanegan (2013) who add a squared term to the estimations and use lagged regressors to preclude the reverse effects from per capita GDP to institutions. The argument is that economic performance cannot influence past institutions, civil society, and other factors. Thus, the first specification has the form:

$$
\begin{aligned}
LNPCGDP_{i,t} &= \beta_0 + \beta_1 * LNNR_{i,t} + \beta_2 * CSOSI_{i,t} + \beta_3 * (CSOSI * LNNR)_{i,t} \\
&+ \beta_4 * CSOSI^2_{i,t} + \beta_5 * INST_{i,t} + \beta_6 * (INST * LNNR)_{i,t} + \beta_7 * INST^2_{i,t} \\
&+ \beta_8 * (INST * CSOSI)_{i,t} + \beta_9 * (LNNR * CSOSI * INST)_{i,t} \\
&+ \beta_{10} * Z_{i,t} + \mu_i + \eta_t + \epsilon_{i,t}
\end{aligned}
\tag{9}
$$

In this specification, the dependent variable *LNPCGDP*, the natural logarithm of per capita GDP, will be explained by the natural resource rents in percent of GDP (*LNNR*), also in log-form, and the Civil Society Organization Sustainability Index (*CSOSI*), and the quality of institutions (*INST*). The variable *Z* represents a group of control variables that will be included in all estimations, because those variables are identified as important drivers of economic growth through literature. Overall, *Z* includes the seven variables *LIFE, SECO, OPEN, CAPFO, GCONS, LNWAP,* and *INFL*. In addition to the already described variables I will add four interaction terms, including a triple interaction, and two squared variables. The latter will be used to check if there are non-linear effects of *INST* or *CSOSI* on the economic performance. Moreover, this can help to avoid functional form misspecification and an omitted variable bias (Woolridge, 2002a, pp. 185-191, 278-280). A similar argument can be used for the inclusion of the interaction terms, which show the combined effects of the involved variables.

To test the main hypothesis of this work the most important interaction term is at coefficient β_3, because it might show the moderating effect of the civil society's quality in the relationship between natural resource dependency and per capita GDP. The other interaction terms are included to check if the effect is whether from *CSOSI* or from institutional quality. Furthermore, β_0 is the constant and $\epsilon_{i,t}$ is the error term. The variable μ_i represents the control for unobservable country-specific effects, for example geography, history, and ethnicity, that would otherwise cause a endogeneity problem. To find the adequate specification I use Hausman-Test to choose between fixed effects (FE) and random effects (RA) (Baltagi, 2011, pp. 275-278; Woolridge, 2002b, pp. 288-291). The results are reported at the bottom the regression tables. Last but not least, all estimations include dummies to control for time-specific effects (η_t) that can affect all countries, such as shocks due to global

terrorism or financial crisis, which both occurred in the studied period. Overall, this specification (9) is only the outline for the first set of estimations, which start with the variables on the coefficients β_1, β_2, β_3, and β_{10}. However, the variables on coefficients β_4 to β_9 are included step by step throughout the estimations from (9.2) to (9.7). Here, all estimations include a constant and control for time-specific and country-fixed effects. The number of countries is 47 and the period of time is 1997 to 2013, thus covering 17 years for at least half of the included countries.

Nevertheless, specification (9) seems to have a Heteroskedasticity problem, because the majority of variables show high significance levels (See Table 17 in Appendix A). In general, the presence of Heteroskedasticity does not cause bias or inconsistency in the OLS estimators, but it affects the efficiency and thus the standard errors become useless to calculate t-statistics and to find the significance levels. Another possible problem is endogeneity in the form of double causation of the independent variable and the independent variable. In this case, it it possible that *CSOSI* causes *LNPCGDP*, and *LNPCGDP* also causes *CSOSI*. This effect will be eliminated in the following specification (10) by using lagged independent variables. More precise, those variables will be lagged by one year (t-1), because *LNPCGDP* cannot affect the past, but the past level of civil society and quality of institutions should be able to affect future per capita GDP. Furthermore, the estimations of this specification will use Heteroskedasticity robust standard errors which are clustered at the country level (as seen in Bjorvatn and Farzanegan, 2013).

$$
\begin{aligned}
LNPCGDP_{i,t} = {} & \beta_0 + \beta_1 * LNNR_{i,t-1} + \beta_2 * CSOSI_{i,t-1} + \beta_3 * (CSOSI * LNNR)_{i,t-1} \\
& + \beta_4 * CSOSI^2_{i,t-1} + \beta_5 * INST_{i,t-1} + \beta_6 * (INST * LNNR)_{i,t-1} + \beta_7 * INST^2_{i,t-1} \\
& + \beta_8 * (INST * CSOSI)_{i,t-1} + \beta_9 * (LNNR * CSOSI * INST)_{i,t-1} \\
& + \beta_{10} * Z_{i,t-1} + \mu_i + \eta_t + \epsilon_{i,t-1}
\end{aligned}
\tag{10}
$$

Again, the variables on coefficients β_4 to β_9 are included stepwise in the estimations from (10.2) to (10.7). Here, all estimations include a constant and control for time-specific effects, as well as fixed or random effects. The number of countries is 47 and the period of time is 1997 to 2013, thus covering 17 years for at least half of the included countries. As natural resource rents in percent of GDP (*LNNR*) measures the dependency of an economy on natural resources, it is also possible that there is another effect of resource abundance. The latter is measured by natural resource rents per capita, because in this way we see how much rents are available to affect the life of each citizen. In countries with state-owned

resource production this aspect is even more important. Thus, I will replace the variable *LNNR* in specification (10) with the natural logarithm of natural resource rents per capita (*LNRPC*) in the following specification:

$$
\begin{aligned}
LNPCGDP_{i,t} &= \beta_0 + \beta_1 * LNRPC_{i,t-1} + \beta_2 * CSOSI_{i,t-1} + \beta_3 * (CSOSI * LNRPC)_{i,t-1} \\
&\quad + \beta_4 * CSOSI^2_{i,t-1} + \beta_5 * INST_{i,t-1} + \beta_6 * (INST * LNRPC)_{i,t-1} + \beta_7 * INST^2_{i,t-1} \\
&\quad + \beta_8 * (INST * CSOSI)_{i,t-1} + \beta_9 * (LNRPC * CSOSI * INST)_{i,t-1} \\
&\quad + \beta_{10} * Z_{i,t-1} + \mu_i + \eta_t + \epsilon_{i,t-1}
\end{aligned}
\tag{11}
$$

The estimations also include Heteroskedasticity robust standard errors clustered at the country level. Contrary to the estimations of (10), here all estimations use fixed effects. The decisions are based on Hausman-Tests. Overall, there still could be econometric issues with endogeneity, because some of the independent variables could be related to unobserved factors in the error term, and hence resulting an omitted variable bias. The variables *CSOSI* and *INST* could serve as proxies for not included aspects, and thus not measure what we want to measure. If the results of the estimations suggest statistically highly significant effects of our main variables of interest, we should take this into account and use an instrumental variable (IV) in the estimations.

4. Results and Discussion

First, we see in Table 18, which shows the regressions (10.1) – (10.7), that the control variables *CAPFO* and *LNWAP* have statistically highly significant positive effects on the dependent variable throughout the estimations. In most cases on the 1% significance level. The control variable *LIFE* becomes significance on the same level, with a positive sign, when adding the interaction term of institutional quality and natural resource dependency. These results go along with the expected effects derived from literature.

Second, in five out of seven estimations the quality of institutions has a statistically significant positive effect on *LNPCGDP*, in three cases on the 5% significance level. This is not a surprising result, because *INST* is a variable that is constructed out of many aspects of good governance. But we cannot expel the possibility of endogeneity, thus for a more adequate analysis of the role of institutions we should use an IV approach. Overall, this result goes along with the expectation.

Table 18: Regression Results of Specifications 10.1 – 10.7

	Dependent Variable: *LNPCGDP*						
	(10.1)	(10.2)	(10.3)	(10.4)	(10.5)	(10.6)	(10.7)
LNNR$_{t-1}$	-0.0895* (-1.77)	-0.0897 (-1.64)	-0.1011* (-1.94)	-0.1237** (-2.02)	-0.1297** (-2.15)	-0.1063* (-1.77)	-0.1053* (-1.85)
CSOSI$_{t-1}$	-0.0294 (-1.10)	-0.0270 (-0.27)	0.0125 (0.12)	0.0259 (0.27)	0.0552 (0.65)	0.1898 (1.09)	0.1907 (1.09)
(CSOSI*LNNR)$_{t-1}$	0.0150 (1.17)	0.0151 (1.12)	0.0176 (1.39)	0.0240 (1.47)	0.0265 (1.64)	0.0201 (1.24)	0.0197 (1.23)
(CSOSI²)$_{t-1}$		-0.0003 (-0.03)	-0.0054 (-0.36)	-0.0094 (-0.68)	-0.0134 (-1.04)	-0.0317 (-1.30)	-0.0319 (-1.29)
INST$_{t-1}$			0.1266** (2.11)	0.1509** (2.42)	0.1695*** (3.01)	0.3877* (1.75)	0.3846* (1.74)
(INST*LNNR)$_{t-1}$				0.0262 (1.14)	0.0330 (1.39)	0.0241 (1.05)	0.0276 (0.53)
(INST²)$_{t-1}$					0.0492 (1.36)	0.0003 (0.01)	0.0003 (0.00)
(INST*CSOSI)$_{t-1}$						-0.0617 (-0.95)	-0.0611 (.0.94)
(LNNR*CSOSI*INST)$_{t-1}$							-0.0009 (-0.08)
LIFE$_{t-1}$	0.0053 (0.33)	0.0053 (0.35)	0.0106 (0.77)	0.0306*** (3.00)	0.0306*** (2.98)	0.0306*** (2.89)	0.0301*** (2.79)
SECO$_{t-1}$	-0.0013 (-0.56)	-0.0013 (-0.57)	-0.0018 (-1.10)	-0.0011 (-0.64)	-0.0013 (-0.84)	-0.0015 (-0.93)	-0.0015 (-0.96)
OPEN$_{t-1}$	-0.0002 (-0.42)	-0.0002 (-0.43)	-0.0000 (-0.03)	0.0005 (0.82)	0.0004 (0.75)	0.0004 (0.73)	0.0004 (0.71)
CAPFO$_{t-1}$	0.0066*** (4.83)	0.0066*** (4.78)	0.0049*** (4.19)	0.0041*** (3.37)	0.0042*** (3.43)	0.0041*** (3.24)	0.0041*** (3.25)
GCONS$_{t-1}$	0.0019 (0.46)	0.0019 (0.46)	0.0005 (0.21)	-0.0009 (-0.33)	-0.001 (-0.04)	-0.0003 (-0.09)	-0.0002 (-0.08)
LNWAP$_{t-1}$	1.6165** (2.16)	1.6157** (2.15)	2.0005*** (2.99)	2.9847*** (5.05)	2.999*** (4.95)	3.0079*** (4.95)	2.9851*** (4.91)
INFL$_{t-1}$	0.0002** (2.53)	0.0002** (2.51)	0.0005 (1.02)	0.0007 (1.25)	0.0006 (1.21)	0.0006 (1.11)	0.0006 (1.14)
constant	1.0875 (0.30)	1.0914 (0.30)	-0.9045 (-0.27)	-6.7055*** (-2.54)	-6.8307*** (-2.54)	-7.0993*** (-2.62)	-6.9712** (-2.55)
Observations	385	385	332	332	332	332	332
Number of Countries	47	47	47	47	47	47	47
R² (within)	0.9182	0.9182	0.9155	0.9114	0.9126	0.9134	0.9136
Hausman (before correcting the error terms)	FE***	FE***	FE*	RE	RE	RE	RE

*** p<0.01, ** p<0.05, * p<0.1 (t-statistics in parentheses)

Third, the variable *LNNR* is significant at least on the 10% level in six out of seven estimations, and twice on the 5% level. Hence, we have found evidence for a statistically negative effect of natural resource dependency on per capita GDP. In comparison, the variable *LNRPC* in estimations (11.1) – (11.7) shows also a negative effect, but insignificant, throughout the estimations (See Table 19 in Appendix A). This goes along with the path of literature which argues that there is no resource curse when taking into account the resource abundance, measured by natural resource rents per capita.

Fourth, on the basis of the estimations (10.1) – (10.7) and (11.1) – (11.7) with this sample of 47 developing and transitional countries from Europe, Central Asia, and Sub-Saharan Africa we cannot find evidence for the main hypothesis that the final effects of natural resource rents on economic growth depend on the degree of civil society development, proxied by the Civil Society Organization Development Index. In all estimations there are only two cases when a *CSOSI*-related variables are significant on the 10% level, namely the variable *CSOSI* in estimations (11.4) and (11.5) which are available in Table 19 in Appendix A. Moreover, the coefficients show a statistically negative causal relationship from the level of civil society development to per capita GDP. We can interpret all relationships as causal, because we used lagged variables. Nevertheless, this negative effect is only in the estimations with the variable *LNRPC* as measurement for natural resource abundance.

Table 20: P-Values of Selected Variables from Selected Regressions

Variable Specification	CSOSI	CSOSI*LNNR	CSOSI*LNRPC
10.3	0.905	0.170	
10.4	0.784	0.142	
10.5	0.517	0.101	
11.4	0.097		0.122
11.5	0.095		0.120
11.6	0.730		0.168
11.7	0.789		0.119

The significance is gone and the sign changed when adding the interaction *INST*CSOSI* in estimation (11.6). This interaction term has also an effect in estimation (10.6) in comparison to estimations without it. As Table 20 shows, the effect of the interaction term *CSOSI*LNNR* is almost significant on the 10% level in estimations (10.3) - (10.5) which would be desirable to find evidence for the main hypothesis. Furthermore, the sign is positive throughout all

estimations. Nevertheless, when adding the interaction *INST*CSOSI* the p-value of *CSOSI*LNNR* increases from 0.101 to 0.218 and thus is even further away from any conventional level of significance. On the contrary, in the estimations (11.4) – (11.7) we see p-values between 0.119 and 0.168 which shows no significance on a conventional level, but it is not far away. Thus, we have a very weak evidence for a moderating effect of civil society development when handling with resource abundance, but not when handling with resource dependency.

Despite the high explanatory power measured by R-squared (within) which is over 90% throughout all estimations, we have to think of some negative aspects in the regressions. First, we see that the number of observations are around 400, and there are only 47 countries. Thus, one argument could be that the included countries are not very resource abundant or dependent, and hence there is nothing to moderate for the civil society or institutions. Table 21 shows a excerpt from the World Bank data that measure resource abundance and resource dependency. The countries that are included in the estimations are marked with *.

Table 21: Top 25 Resource-Rich Countries, Average 2009-2013

Country	Natural Resource Rents in % of GDP	Country	Natural Resource Rents per Capita (constant 2005 US$)
1. Equatorial Guinea	65.46	1.Qatar	22 878.60
2. Congo (COG)*	63.66	2. Kuwait	16 316.48
3. Kuwait	55.01	3. Brunei	10 009.56
4. Mauritania	54.47	4. Equatorial Guinea	8 529.01
5. Libya	52.05	5. Norway	8 242.85
6. Saudi Arabia	47.07	6. Saudi Arabia	7 916.47
7. Gabon*	44.61	7. United Arab Emirates	5 971.46
8. Iraq	44.37	8. Oman	5 283.13
9. Angola*	43.46	9. Trinidad and Tobago	4 999.65
10. Azerbaijan*	42.85	10. Libya	3 566.88
11. Turkmenistan*	40.70	11. Australia	2 999.62
12.Papua New Guinea	40.66	12. Gabon*	2 891.65
13. Brunei	40.65	13. Canada	1 884.27
14. Oman	39.33	14. Bahrain	1 800.16
15. Qatar	38.82	15. Kazakhstan*	1 756.23
16. Kazakhstan*	35.30	16. Chile	1 593.71
17. Congo (COD)	35.27	17. Venezuela	1 495.44
18. Trinidad and Tobago	35.11	18. Russia	1 345.24
19. Mongolia	34.28	19. Azerbaijan*	1 337.44

20. Iran	33.17	20. Congo (COG)*	1 216.29
21. Solomon Islands	31.44	21. Turkmenistan*	1 214.39
22. Algeria	31.17	22. Angola*	1 141.99
23. Liberia*	30.89	23. Suriname	1 095.26
24.Chad	29.86	24. Iran	1 074.28
25. Uzbekistan*	28.31	25. Iraq	1 026.26

(* country included in the estimations)

(Source: WDI, 2005; author's illustration and calculations)

We see that our data set of 47 countries covers four out of the top ten most resource-dependent countries, measured by natural resource rents in percent of GDP. In addition, we have 9 out of the top 25 in the data set. On the contrary, only 6 out of the top 25 from the most resource abundant countries, measured by per capita resource rents. Thus, we have important countries included. Nevertheless, there is a lack of data for countries from some really resource-rich regions, such as the MENA region.

Second, also related to availability of data, there is only a small period of time covered by the used data. Hence, the possibility is that effects from civil society or institutions on economic performance cannot be estimated because the development of these entities needs a lot of time. Related to the change over time is the third problem as well. If we look at the CSOSI data we see some countries that does not change over time, for instance Botswana, Gabon, Ghana, Liberia, Mali, Nigeria, Sierra Leone, South Africa, Zambia, and Zimbabwe. Furthermore, the correlation between *CSOSI* and *LNNR* is 0.46 and between *CSOSI* and *LNRPC* is -0.13 as seen in Table 16 in Appendix A. The latter is quite weak, but negative, thus the question is, if natural resource abundance might affect civil society in a negative way, and hence dampens its positive effects for society.

Table 22: Correlations of Civil Society Indexes and Natural Resource Data

	LNNR (Averages)					LNRPC (Averages)				
	1995-2000	2001	2003-2006	2005-2011	2008-2011	1995-2000	2001	2003-2006	2005-2011	2008-2011
GCSI	-0.2419					0.3069				
CSI Pilot		0.0386					0.4646			
CSI Phase 1			-0.3418					-0.0008		
CSI Phase 2					-0.1048					-20.84
EEI				-0.5563					0.0679	

In this Table 22, I summarized the correlations between the indexes that are presented in

2.1.2 with the corresponding values for the measurements of resource abundance and dependency. Overall, in the case of *LNNR* the correlations are negative in 4 out of 5 cases with low and medium correlations. The correlations for *LNRPC* are mixed and very weak in two cases. Thus, there is no clear evidence for a negative relationship between civil society and natural resource abundance, but some evidence for a negative relationship between natural resource dependency and civil society. This relationship is an interesting aspect for further studies. Maybe other approaches can find evidence for the hypothesis that resource rents affect the well-being of society or economy through the weakening of civil society. Another aspect is that there could be some indirect effects of civil society on the economic performance that also could be studied with other approaches.

5. Conclusion

In this work I introduced the role of civil society in the relationship between natural resources and economic performance. First, the literature gave me the tools to understand some of the mechanisms behind economic growth. For this purpose, I followed important arguments and theories from Smith to Solow and beyond to find main determinants of economic growth. Overall, I identified at least five aspects that are important, namely trade openness, saving and investment, demography, technological progress, and the quality of institutions. Furthermore, I traced back the roots civil society concepts that can be found in works from Aristotle, through De Tocqueville, to Habermas. After summarizing the most important findings on the resource curse of the last twenty years, I looked at the empirical evidence for the theories. Some of the theories are based on empirical finding, thus there is some overlapping in the theoretical and empirical parts of this work. In the latter, I also discussed the results that are different from theory and criticized different findings and approaches. On the basis of this results, in particular on Bjorvatn and Farzanegan (2013), Boschini et al. (2007), Brunnschweiler (2008) , and Mehlum et al. (2006), I constructed my specifications that were presented in the third part of this work.

From our main variables of interest only the quality of institutions (*INST*) showed a statistically significant positive causal effect on per capita GDP (*LNPCGDP*) in six out of ten specifications, in which it was included, on at least the 10% significance level. The interaction term that represents the combined effects of civil society development and natural resource abundance (*LNRPC*) or dependency (*LNNR*) shows a positive effect throughout all specifications, but only in five out of fourteen cases on a 15% significance level, which is not commonly used. Thus, there is a very weak (to none) statistical evidence that there is a direct

causal relationship going from this interaction term to the economic performance. On the contrary, the development of civil society (*CSOSI*) alone shows a statistically significant negative causal relationship on the 10% significance level going from *CSOSI* to *LNPCGDP*, but only in two out of fourteen cases. When it comes to the resource curse, we see on the one hand a negative effect in all specification, but on the other hand statistical significance on conventional levels only in six out of fourteen cases. Only in the specifications that use natural resource rents per capita, measuring resource abundance.

Overall, there is not much evidence from this regression analysis for the hypothesis that civil society might lift the curse of natural resources. But as the case studies from 2.2.2 showed, civil society can bring many benefits for social, political, and economic life. With this knowledge it is hard to completely reject the hypothesis. Thus, further research on this topic is suggested, especially on the relationship between natural resource wealth and the development of civil society. Moreover, the availability of data might increase in future which would give us the opportunity to investigate a longer period of time and cover more countries than in our analysis.

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Appendix A: Additional Figures and Tables

Table 1: Significant Facilitators of the Economic Dynamism[20]

Rank	Factors	%
1	High quality of human capital	58.26
2	High technology, innovation, R&D	49.58
3	Stable political environment	41.31
4	Secure formal institutions (legal system, property rights, tax system, finance system)	37.50
5	Good infrastructure	36.44
6	High degree of openness to trade (networks, links)	34.75
7	Capacity for adjustment (flexibility)	33.05
8	Specialization in knowledge and capital intensive sectors	26.91
9	Significant Foreign Direct Investment	23.73
10	Free market economy (low state intervention)	22.46
11	Rich natural recourses	21.61
12	Robust macroeconomic management	21.61
13	Low levels of public bureaucracy	18.01
14	Favourable demographic conditions (population size, synthesis and growth)	16.74
15	Favourable geography (location, climate)	12.50
16	Strong informal institutions (culture, social relations, ethics, religion)	11.02
17	Significant urban agglomerations (population and economic activities)	10.59
18	Capacity for collective action (political pluralism and participation, decentralization)	7.42
19	Random factors (e.g. unpredictable shocks)	5.08
20	Others	2.54

(Source: Arvanitidis et al., 2009)

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20 Results of a questionnaire including 472 properly completed responses from high ranked officials of the public sector, and high ranked business people, and academics from nine European countries. The table shows how many of these experts agree with the factor to affect economic performance in a positive way. The category 'Others' refers to: low labour costs, sustainable use of resources, military power, strong exports, and links with economically advanced nations.

Table 2: CSI Pilot Phase, 2001

Country	Structure	Space	Values	Impact
Belarus	55.17	43.05	68.01	60.68
Canada	55	55	67	68
Croatia	53.8	34.6	60.6	47.6
Estonia	38	43	88	30
Indonesia[21]	2.42	2.08	2.63	2.44
New Zealand	66.1	53.08	58.2	56.06
Pakistan	52.05	43.09	50.17	41.44
Romania	54	37	61	51
South Africa	65	56	53	50
Ukraine	55.3	40.9	58.6	53.3
Uruguay	49.59	49.71	58.43	59.5
Wales	55.8	56.2	58.49	61.15

(Source: individual country reports from Civicus, 2015, author's illustration)

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21 Except for the case of Indonesia, the values range from 0 to 100, whereas 100 is the best possible outcome. In the Indonesian case the best possible outcome is 4.

Table 3: CSI Phase 1, 2003-2006[22]

Country	Structure	Environment	Values	Impact
Argentina	1.4	1.7	1.7	1.9
Armenia	1.6	1.4	1.3	0.9
Azerbaijan	1	1.1	1.2	0.8
Bolivia	1.8	1.	1.7	1.8
Bulgaria	1.1	1.3	2.1	1.5
Chile	1.9	1.8	2.2	1.8
China	1	1.2	1.8	1.6
Croatia	1.7	1.8	1.9	1.5
Cyprus	1.3	2.1	1.9	1.8
Cyprus, Turkish	1	1.6	1.6	1.2
Czech Republic	1.7	2.1	2.3	1.8
Ecuador	1.2	1.4	1.4	1.6
Egypt	1.2	1.1	1.5	1
Fiji	1.5	1.5	1.5	2.1
Germany	1.6	2.3	2.2	2.5
Ghana	1.3	1.5	2	2
Greece	0.9	2.1	2	1.3
Guatemala	1.6	1.1	1.7	1.3
Honduras	1.3	1	1.9	1.8
Hong Kong	1.3	1.6	2	1.9
Indonesia	1.6	1.3	1.9	1.6
Italy	1.3	2.2	2.5	2.3
Jamaica	1.5	1.7	1.7	1.8
Lebanon	1.5	1.4	1.8	1.5
Macedonia	1.5	1.4	2.1	1.8
Mongolia	1.2	1.1	1.7	1.4
Montenegro	1.1	1.4	1.9	1.4
Mozambique	1.1	1.2	1.1	1
Netherlands, The	2.1	2.5	2	1.7
Nepal	1.7	1.3	1.7	1.3
Northern Ireland	1.8	2.4	2.1	2.1

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22 The values range from 0 to 3, with 3 the best possible outcome.

Nigeria	2	1	2.2	2.2
Orissa (India)	1.2	1.5	1.5	1.2
Poland	1.2	1.7	2.1	1.8
Romania	1.3	1.8	1.9	1.6
Russia	1.1	1.1	1.5	1.2
Scotland	2.2	2.4	2.6	2.4
Serbia	1.3	1.5	1.6	1.5
Sierra Leone	1.3	0.8	1.5	1.6
Slovenia	1.4	2	1.9	1.5
South Korea	1.5	1.6	2.3	1.9
Taiwan	1.4	2.2	2.2	2.2
Togo	1	0.7	1.4	0.8
Turkey	0.9	1.4	1.3	1.3
Uganda	1.8	1.4	1.9	2.3
Ukraine	1.7	1.6	1.9	1.4
Uruguay	1.6	1.6	1.6	1.4
Vietnam	1.6	1.4	1.7	1.2
Wales	1.9	2.3	2.7	2.5

(Source: individual country reports from Civicus, 2015, author's illustration)

Table 4: CSI Phase 2, 2008-2011

Country	Organization/ Structure	Environment	Values	Impact	Engagement
Albania	57.9	59.8	62.4	50.2	47.6
Argentina	52.6	64.4	39.6	47.6	38.8
Armenia	54.9	54.2	51.1	35.1	37.4
Bulgaria	56.1	61.2	46.4	43.6	40.5
Chile	52.3	69.6	42.5	46.5	49.5
Croatia	59.9	64.1	41.1	43.2	39.4
Cyprus	59.	77.1	46.1	53.3	43.6
Cyprus, Turkish	50.5	70.4	50.9	49.8	43.6
Georgia	64.5	59	63.6	28.8	17.6
Guinea	1.9	1.1	2.1	2.2	
Italy	63.2	71.8	42.1	41.6	48.3
Japan	62.3	76	41.3	57.2	44.5
Jordan	55.3	55.3	57.2	46.9	36.8
Kazakhstan	48.4	46.5	47.6	40	46.9
Kosovo	70.7	51.3	59.4	32.9	44.04
Liberia	50.5	52.4	53.7	53.1	55.9
Macedonia	59.8	56.5	57.7	45.7	45
Madagascar	51.21	55.38	50.73	43.4	48.9
Mexico	72	48	62	53	46
Morocco	50.5	57	59.2	61.8	39.9
Nicaragua	57.2	52.7	61.5	59.8	53
Philippines	57.9	53.1	48.1	62	54.7
Russia	51.4	53.3	39.8	34.4	33.7
Rwanda	1.7[23]	2.1	2.6	1.9	
Senegal	1.47	1.17	1.93	2.1	
Slovenia	60.2	73.8	42.3	32.5	46.6
Tanzania	1.84	1.68	2.01	1.58	
Turkey	54.6	57.5	49.1	39.2	31
Uruguay	59.5	73	43.1	60.9	44.8
Venezuela	56.6	54.5	37.8	46.5	37.5

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23 In the cases of Rwanda, Senegal, and Tanzania the values range from 0 to 3, like in the second phase. The rest range from 0 to 100, like in the pilot phase.

Zambia	58.3	57.1	59.2	60.3	60.7

(Source: individual country reports from Civicus, 2015, author's illustration)

Table 5: Types of Units Included and Excluded in Civil Society

	Institutions	Organizations	Individuals
Included	• Freedom of expression, press, association, assembly, etc • Rule of law • Legislative process • Human rights • Democratic process • Philanthropy; charity • Accountability and transparency • Citizenship • Independent media	• Civil society organizations (CSOs) • Voluntary associations • Non-governmental organizations (NGOs) • Non-profit service providers • Foundations • Advocacy groups • Social movement organizations • Coalitions and networks among CSOs • Community groups • Self-help groups • Corporate responsibility programmes	• Activists • Volunteers • Members • Participants • Leaders • Managers • Employees • Users • Beneficiaries
Excluded	• Institutions not directly related to civil society (eg market exchange; political process and elections; family forms; etc)	• Government agencies and organizations • For-profit and commercial organizations • Organizations outside of the realm of civic rules and values	• Non members • Non participants etc • Individuals outside realm of civil rules and values

(Source: Anheier, 2004, p. 25)

Table 6: Dimensions and Subdivisions of the CSI

Dimension	Subdivision	Indicator
Structure	Breadth of citizen participation	percentages of citizens who undertake non-partisan political actions
		percentages of citizens who donate to charity
		percentages of citizens who belong to a CSO
		percentages of citizens who do volunteer work
		percentages of citizens who participate in collective community activities
	Depth of citizen participation	how much people give to charity
		how many different CSOs they belong to
		how much volunteer work they do.
	Diversity within civil society	in what extent women, minorities, and other social groups participate in CSO leadership
		in what extent women, minorities, and other social groups participate in CSO membership
		geographic representation of CSOs
	Level of organisation	the existence and effectiveness of CSO umbrella bodies and support organisations
		efforts to self-regulate
		the proportion of CSOs with international links
	Interrelations	the extent of communication among civil-society actors
		the extent of cross-sectoral co-operation and alliance-building among civil-society actors
	Resources	the extent to which CSOs have adequate financial resources to achieve their goals
		the extent to which CSOs have adequate human resources to achieve their goals
		the extent to which CSOs have adequate technological resources to achieve their goals
Environment	Political context	the extent of citizens' political rights
		the extent of political-party competition
		the extent of rule of law
		the extent of public-sector corruption
		the extent of state effectiveness
		the extent of decentralisation
	Basic freedoms and rights	the extent to which basic civil liberties (such as freedom of expression, assembly, and association) are ensured by law and protected in practice
		the extent to which information rights are ensured by law and protected in practice
		the extent to which freedom of the press is ensured by law and protected in practice
	Socio-economic context	the presence of conditions considered seriously disabling to civil society. These include widespread poverty, civil war, severe ethnic or religious conflict, severe economic or social crisis, severe socio-economic inequity, or pervasive adult illiteracy.

	Socio-cultural context	levels of trust among members of society
		levels of tolerance among members of society
		levels of public-spiritedness among members of society
	Legal environment	CSO registration procedures
		legal constraints on CSO advocacy activities
		CSO tax exemptions
		tax benefits to promote philanthropy
	Relations between the state and civil society	CSO autonomy
		state-civil-society dialogue
		relationships of co-operation and support between the state and civil society
	Relations between the private sector and civil society	private-sector attitudes towards civil society
		levels of corporate social responsibility
		corporate philanthropy
Values	Democracy	the extent to which CSOs practise internal democracy
		how actively CSOs are involved in promoting democracy within society
	Transparency	corruption
		financial transparency within civil society
		civil-society actions to promote transparency at the societal level
	Tolerance	the balance between tolerant and intolerant forces within civil society
		the extent to which civil society is engaged in promoting tolerance within society
	Non-violence	the presence of violent forces within civil society
		efforts by civil society to promote non-violence at the individual, household, and societal levels
	Gender equity	gender-equitable practices within CSOs
		civil-society actions to promote gender equity within society
	Poverty eradication	the extent to which civil-society actors are engaged in addressing poverty issues and promoting pro-poor policies
	Environmental sustainability	the extent to which civil society is actively engaged in promoting environmental sustainability
Impact	Influencing public policy	how active and successful civil society is in influencing public policy (case studies of a priority human-rights issue and priority social-policy issue are used)
		how active and successful civil society is in influencing the national budget process
	Holding the state and private corporations accountable	the extent to which civil society is active and successful in monitoring and holding to account state actors
		the extent to which civil society is active and successful in monitoring and holding to account private-sector actors
	Responding to social interests	how effectively civil society responds to priority social concerns
		the level of public trust in civil society
	Empowering citizens	impact on informing and educating citizens on issues of public interest

		impact on building capacity for collective action
		impact on building social capital by promoting trust, tolerance, and public-spiritedness
		how actively and successfully civil-society empowerment efforts target woman
		how actively and successfully civil-society empowerment efforts target poor people
	Meeting societal needs	performance in meeting these needs directly
		performance in lobbying the state for improved service provision
		relative effectiveness in the needs of meeting marginalised groups, as compared with the state

(Source: Malena and Heinrich, 2007, author's illustration)

Table 7: Dimensions and Indicators of the GCSI

Dimension	Indicator	Data
Capacity	the extent of paid employment	full-time equivalent employees of CSOs as a percentage of the economically active population
	the extent of volunteer employment	full-time equivalent volunteers of CSOs as a percentage of the economically active population
	the amount of charitable contributions	charitable contributions as a share of the GDP
	the degree of diversification of the civil society sector	distribution of non-profit workforce in different fields of activity
Sustainability	self-generated income	total amount of fees, proceeds from the sale of goods, membership dues, and investment income received by CSOs as a share of total civil society sector revenue
	government support	total amount of government grants, contracts, and reimbursement payments made to CSOs as a share of total civil society sector revenue
	popular support	number of people volunteering as a share of adult population
	legal environment	Civil Society Legal Environment Scale that was created with expert of the CNP. It includes two indicators from WGI, namely government effectiveness and rule of law.
Impact	economic contribution	value added by CSOs as the wages of the sector's paid workers (plus the imputed wages of its volunteers) as a share of the GDP
	human service contribution	non-profit employment as share of total employment in the fields: health, education, social services, culture, and recreation
	contribution to advocacy and expression	amount of CSO staff (paid and volunteer) mobilized for advocacy and expression activities as a share of adult population
	popular commitment	share of the adult population reporting membership in CSOs as reflected in the World Value Survey

(Source: Salamon et al., 2004, pp. 67-75, author's illustration)

Table 8: The Global Civil Society Index, 1995-2000

Country	Capacity	Sustainability	Impact	Total
Netherlands	79	54	89	74
Norway	55	82	59	65
United States	76	54	54	61
Sweden	58	56	67	60
United Kingdom	66	60	50	58
Belgium	65	45	60	57
Ireland	64	45	52	54
Israel	70	42	50	54
Australia	51	46	49	49
France	56	46	44	49
Finland	48	42	50	47
Germany	47	45	47	46
Argentina	48	35	36	40
Spain	54	37	30	40
Tanzania	45	32	38	39
Austria	35	42	34	37
South Africa	44	35	33	37
Uganda	44	37	30	37
Japan	38	34	35	36
South Korea	32	38	36	35
Italy	38	37	25	33
Kenya	41	28	29	33
Czech Republic	34	35	25	31
Hungary	38	32	20	30
Brazil	30	31	26	29
Colombia	37	26	22	28
Peru	32	30	22	28
Philippines	30	35	17	27
India	27	30	20	26
Poland	30	38	7	25
Mexico	23	29	19	24
Slovakia	32	28	13	24

| Romania | 27 | 26 | 14 | 22 |
| Pakistan | 26 | 19 | 12 | 19 |

Table 9: Dimensions and Indicators of the CSOSI

Dimension	Indicator	Description
legal environment	registration	legal framework for CSO registration
	operation	legal framework for free and independent operation of the CSOs
	administrative impediments and state harassment	de facto freedom from state harassment
	local legal capacity	state provides legal advice for CSOs
	taxation	tax exemption or deduction on income for CSOs and individual or corporate donors
	earned income	rights for CSOs to earn income from services, or to compete for government contracts
organizational capacity	constituency building	efforts to build local constituencies for their initiatives
	strategic planning	quality of strategic plans and incorporate strategic planning techniques
	internal management structure	clearly defined and transparent management structure within CSOs
	CSO staffing	adequate human resources and professionalism of employees
	technical advancement	modernity of basic office equipment
financial viability	local support	volunteer and non-monetary support from their communities, or funding from local sources
	diversification	multiple/diverse sources of funding
	financial management systems	transparent financial management systems
	fundraising	loyal core of financial supporters
	earned income	revenues from services, products, or membership fees
advocacy	cooperation with local and federal government	direct lines of communication between CSOs and policy makers
	policy advocacy initiatives	advocacy campaigns and their effectiveness
	lobbying efforts	participation in the various levels of government decision-making processes
	local advocacy for legal reform	local CSO advocacy effort to promote legal reforms that will benefit CSOs
service provision	range of goods and services	service provision in a variety of fields
	community responsiveness	provision of needs and priorities of their constituents and communities
	constituencies and clientele	goods and services that go beyond basic social needs provided to a constituency broader than CSOs' own memberships
	cost recovery	cost recovery by charging fees for goods and services
	government recognition and	recognition and support from the government for the

	support	CSOs work
infrastructure	intermediary support organizations (ISOs) and CSO resource centers	availability of ISOs and resource centers
	local grant making organizations	provision of grants from community foundations and/or intermediary support organizations
	CSO coalitions	information sharing and networks of CSOs
	training	adequate local CSO management trainings
	intersectoral partnerships	partnerships of CSOs with local businesses, government, and the media
public image	media coverage	media coverage at the local and national levels
	public perception of CSOs	the public discourse about CSOs
	government/business perception of CSOs	business sector and local and central government officials discourse about CSOs
	public relations	CSO's public promotion of their activities and connections to journalists
	self-regulation	code of ethics and transparency

(Source: USAID, 2015; author's illustration)

Table 10: CSOSI (Mean), 2013 or Latest Available Data

Country	CSOSI	Country	CSOSI
Turkmenistan	6.4	Senegal	4.2
Uzbekistan	5.8	Georgia	4.1
Angola	5.8	Kazakhstan	4.1
Belarus	5.7	Serbia	4.1
Ethiopia	5.7	Tanzania	4.1
Gambia	5.5	Kyrgystan	4
Guinea	5.5	Moldova	4
Gabon	5.4	Montenegro	4
South Sudan	5.4	Pakistan	4
Sudan	5.4	Albania	3.9
Burundi	5.3	Armenia	3.9
Malawi	5.2	Kosovo	3.9
Congo	5.1	Kenya	3.9
Afghanistan[24]	5	Macedonia	3.8
Tajikistan	4.8	Bosnia	3.7
Liberia	4.8	Romania	3.6
Sierra Leone	4.8	Slovenia	3.6
Zimbabwe	4.8	South Africa	3.6
Azerbaijan	4.7	Ukraine	3.4
Mozambique	4.7	Bulgaria	3.3
Nigeria	4.6	Croatia	3.2
Zambia	4.6	Hungary	3.2
Russia	4.4	Slovakia	2.8
Mali	4.4	Lithuania	2.7
Rwanda	4.4	Czech Republic	2.6
Ghana	4.3	Latvia	2.6
Uganda	4.3	Poland	2.2
Botswana	4.2	Estonia	2

(Source: USAID, 2015; author's illustration)

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24   Afghanistan and Pakistan: Values from 2012

Figure 3: Number of World Protests by Main Grievance/Demand, 2006-2013
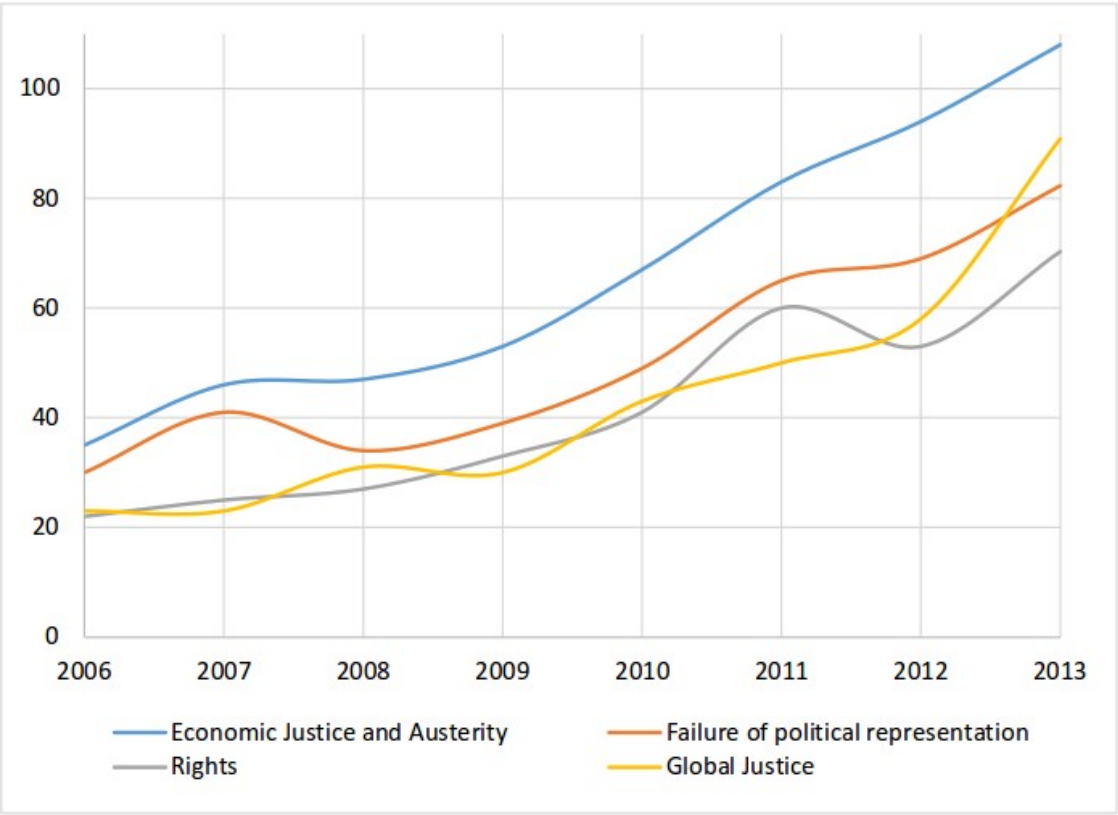
Table 15: Summary of Used Variables, Full Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
LNPCGDP	8232	7.942252	1.621134	3.912867	11.97542
LNNR	6769	.9033009	2.297479	-12.41603	4.49111
LNRPC	6460	4.164407	2.168089	-9.570681	10.74466
CSOSI	576	4.061285	1.004985	1.6	6.6
INST	2762	-.0629877	.9347486	-2.491062	1.986065
LIFE	10522	63.29385	11.5324	19.50493	83.83171
SECO	5595	62.3446	33.89236	0	166.1359
OPEN	7774	78.1026	51.16373	.3088029	531.7374
CAPFO	7429	23.09487	10.5385	-17.37551	219.0694
GCONS	7490	16.05466	7.793133	1.375188	156.5315
LNWAP	10417	4.063594	.1162353	3.80437	4.452084
INFL	8265	35.55675	446.2508	-64.71639	26765.86

Table 16: Correlation Matrix of Used Variables

(obs=345)	LNPCGDP	LNNR	LNRPC	CSOSI	INST	LIFE	SECO	OPEN	CAPFO	GCONS	LNWAP	INFL
LNPCGDP	1.0000											
LNNR	-0.4072	1.0000										
LNRPC	0.4340	0.6461	1.0000									
CSOSI	-0.7031	0.4642	-0.1296	1.0000								
INST	0.7943	-0.5588	0.1124	-0.8556	1.0000							
LIFE	0.7084	-0.5868	0.0132	-0.5408	0.5417	1.0000						
SECO	0.6760	-0.3504	0.2194	-0.4561	0.4259	0.7551	1.0000					
OPEN	0.4011	-0.4359	-0.0947	-0.3634	0.4482	0.3784	0.4334	1.0000				
CAPFO	0.2711	-0.1738	0.0550	-0.1920	0.2939	0.2492	0.2032	0.2459	1.0000			
GCONS	0.2211	-0.1964	-0.0090	-0.2425	0.3308	0.1111	0.1583	0.2417	0.0009	1.0000		
LNWAP	0.7451	-0.3994	0.2289	-0.4981	0.4721	0.8109	0.8675	0.4001	0.2783	0.1767	1.0000	
INFL	-0.2861	0.3130	0.0697	0.3937	-0.4443	-0.2539	-0.0811	-0.1543	-0.0606	-0.2495	-0.1503	1.0000

Table 17: Regression Results of Specifications 9.1 – 9.7

	(9.1)	(9.2)	(9.3)	(9.4)	(9.5)	(9.6)	(9.7)
Dependent Variable: *LNPCGDP*							
LNNR	-0.8479*** (-3.12)	-0.0941*** (-3.42)	-0.1159*** (-3.91)	-0.1299*** (-3.95)	-0.1326*** (-4.01)	-0.1040*** (-2.76)	-0.1122*** (-2.88)
CSOSI	-0.3791*** (-2.59)	0.06378 (1.14)	0.1287** (2.03)	0.1398** (2.17)	0.1533** (2.31)	0.3122** (2.57)	0.3066** (2.52)
CSOSI*LNNR	0.0108* (1.82)	0.0121** (2.03)	0.0167** (2.57)	0.0214*** (2.65)	0.0226*** (2.75)	0.0147 (1.54)	0.0183* (1.75)
CSOSI²		-0.0136* (-1.89)	-0.0216*** (-2.58)	-0.0237*** (-2.74)	-0.0255*** (-2.86)	-0.0472** (-2.86)	-0.0460*** (-2.78)
INST			0.1267*** (4.06)	0.1172*** (3.59)	0.1265*** (3.66)	0.3884** (2.27)	0.4027** (2.34)
INST*LNNR				0.0141 (0.98)	0.0173 (1.15)	0.0067 (0.41)	-0.0216 (-0.58)
INST²					0.0226 (0.84)	-0.0353 (-0.77)	-0.0361 (-0.79)
INST*CSOSI						-0.0732 (-1.56)	-0.0778* (-1.65)
LNNR*CSOSI* INST							0.0075 (0.85)
LIFE	-0.0052 (-0.75)	-0.0084 (-1.18)	-0.0040 (-0.55)	-0.0046 (-0.64)	-0.0045 (-0.62)	-0.0041 (-0.56)	-0.0037 (-0.51)
SECO	-0.0004 (-0.39)	-0.0002 (-0.14)	-0.0010 (-0.89)	-0.0008 (-0.68)	-0.0009 (-0.74)	-0.0009 (-0.79)	-0.0009 (-0.75)
OPEN	-0.0008*** (-2.81)	-0.0007*** (-2.71)	-0.0005** (-2.01)	-0.0005** (-1.97)	-0.0005** (-2.04)	-0.0005** (-2.03)	-0.0006** (-2.12)
CAPFO	0.0064*** (7.37)	0.0065*** (7.50)	0.0048*** (5.50)	0.0047*** (5.41)	0.0048*** (5.44)	0.0047*** (5.29)	0.0046*** (5.28)
GCONS	0.0023 (1.26)	0.0024 (1.32)	0.0007 (0.36)	0.0006 (0.33)	0.0009 (0.50)	0.0007 (0.37)	0.0007 (0.37)
LNWAP	1.1927*** (3.84)	1.1688*** (3.78)	1.5648*** (4.69)	1.5552*** (4.66)	1.5653*** (4.69)	1.6109*** (4.82)	1.6009*** (4.78)
INFL	0.0002*** (2.71)	0.0002*** (2.64)	0.0009** (2.31)	0.0009** (2.41)	0.0009** (2.29)	0.0008** (2.13)	0.0008** (2.03)
constant	3.6430** (2.42)	3.7628** (2.51)	1.7523 (1.08)	1.812 (1.11)	1.7330 (1.06)	1.2360 (0.75)	1.2495 (0.75)
Observations	398	398	345	345	345	345	345
Number of Countries	47	47	47	47	47	47	47
R² (within)	0.9196	0.9205	0.9178	0.9181	0.9183	0.9190	0.9193
Hausman	FE***	FE***	FE***	FE***	FE***	FE***	FE***

*** p<0.01, ** p<0.05, * p<0.1 (t-statistics in parentheses)

Table 19: Regression Results of Specifications 11.1 – 11.7

	(11.1)	(11.2)	(11.3)	(11.4)	(11.5)	(11.6)	(11.7)
	Dependent Variable: *LNPCGDP*						
$LNRPC_{t-1}$	-0.0479 (-0.98)	-0.0524 (-1.09)	-0.0676 (-1.40)	-0.1005 (-1.60)	-0.0999 (-1.61)	-0.0832 (-1.44)	-0.0893 (-1.66)
$CSOSI_{t-1}$	-0.0524 (-1.01)	-0.1343 (-1.23)	-0.1062 (-1.29)	-0.1572* (-1.70)	-0.1414* (-1.71)	0.0601 (0.35)	0.0495 (0.27)
$(CSOSI*LNRPC)_{t-1}$	0.0111 (0.99)	0.0127 (1.15)	0.01497 (1.29)	0.0266 (1.58)	0.0263 (1.59)	0.0215 (1.40)	0.0241 (1.59)
$(CSOSI^2)_{t-1}$		0.0099 (0.89)	0.0051 (0.45)	0.0053 (0.50)	0.0035 (0.37)	-0.0220 (-0.90)	-0.0219 (-0.88)
$INST_{t-1}$			0.1232* (1.93)	-0.0146 (-0.14)	0.0169 (0.17)	0.3039 (1.37)	0.4212 (1.45)
$(INST*LNRPC)_{t-1}$				0.0346 (1.49)	0.0308 (1.33)	0.0236 (1.13)	-0.0021 (-0.03)
$(INST^2)_{t-1}$					0.0338 (0.87)	-0.0183 (-0.29)	-0.0190 (-0.30)
$(INST*CSOSI)_{t-1}$						-0.0737 (-1.14)	-0.1041 (-1.31)
$(LNRPC*CSOSI*INST)_{t-1}$							0.0067 (0.46)
$LIFE_{t-1}$	0.0017 (0.10)	0.0041 (0.26)	0.0091 (0.64)	0.0086 (0.61)	0.0089 (0.65)	0.0097 (0.68)	0.0103 (0.70)
$SECO_{t-1}$	0.0006 (0.27)	0.0003 (0.13)	-0.0005 (-0.28)	0.0000 (0.01)	-0.0003 (-0.19)	-0.0005 (-0.33)	-0.0005 (-0.31)
$OPEN_{t-1}$	-0.0004 (-0.61)	-0.0004 (-0.61)	-0.0001 (-0.19)	-0.0002 (-0.31)	-0.0002 (-0.35)	-0.0002 (-0.31)	-0.0002 (-0.37)
$CAPFO_{t-1}$	0.0065*** (4.97)	0.0064*** (4.91)	0.0049*** (4.37)	0.0048*** (4.46)	0.0049*** (4.46)	0.0048*** (4.11)	0.0047*** (4.10)
$GCONS_{t-1}$	0.0018 (0.48)	0.0017 (0.46)	0.0002 (0.07)	0.0007 (0.26)	0.0012 (0.43)	0.0009 (0.34)	0.0009 (0.35)
$LNWAP_{t-1}$	1.206 (1.53)	1.1905 (1.54)	1.670** (2.53)	1.7288*** (2.75)	1.7357*** (2.71)	1.788*** (2.79)	1.7854*** (2.81)
$INFL_{t-1}$	0.0002** (2.40)	0.0002** (2.39)	0.0005 (1.04)	0.0006 (1.30)	0.0005 (1.17)	0.0004 (1.01)	0.0004 (1.02)
constant	3.0100 (0.80)	3.0854 (0.83)	0.7972 (0.25)	0.6837 (0.22)	0.6017 (0.19)	-0.312 (-0.01)	-0.0453 (-0.01)
Observations	385	385	332	332	332	332	332
Number of Countries	47	47	47	47	47	47	47
R² (within)	0.9159	0.9164	0.9130	0.9150	0.9155	0.9165	0.9167
Hausman (before correcting the error terms)	FE***	FE***	FE**	FE**	FE**	FE*	FE*

*** p<0.01, ** p<0.05, * p<0.1 (t-statistics in parentheses)

Appendix B: Declaration in Lieu of an Oath

Eigenständigkeitserklärung

Hiermit erkläre ich, dass ich meine Masterarbeit zur Erlangung des Grades Master of Arts (M. A.) mit dem Thema

"Natural Resource Rents and Economic Growth: Can Strong Civil Society Lift the Curse?"

selbstständig und ohne unerlaubte Hilfe verfasst, ganz oder in Teilen noch nicht als Prüfungsleistung vorgelegt und keine anderen als die angegebenen Hilfsmittel benutzt habe. Die Stellen der Arbeit, die anderen Quellen (einschließlich des World Wide Web und anderen elektronischen Text- und Datensammlungen) im Wortlaut oder dem Sinn nach entnommen wurden, sind durch Angabe der Herkunft kenntlich gemacht. Mir ist bewusst, dass ich nachgewiesenen Betrugsfall die eventuell entstehenden Kosten eines Rechtsstreits zu übernehmen sowie mit weiteren Sanktionen zu rechnen habe.

_____   _____   _____
Ort   Datum   Unterschrift